This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

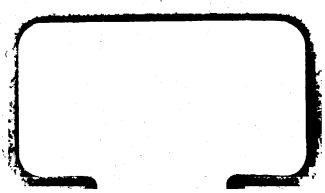
+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`

NYPL RESEARCH LIBRARIES
3 3433 08181284 8

Digitized by Google



Digitized by Google

Montana
T. M.

Digitized by Google

Digitized by Google

Digitized by Google

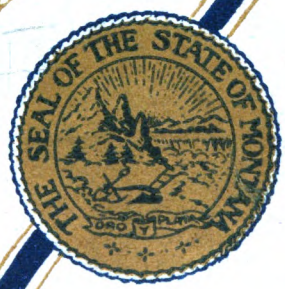
Digitized by Google

* PAIS

PUBLIC
ASTOR
TILDEN

Received
OCT 7 1920

Montana



1920

Digitized by Google

Digitized by Google

Montana. Agriculture and Publicity Dept.

Resources of Montana

"The Land of Opportunity"

EDITION OF 1920

BY THE

Department of Agriculture and Publicity

CHAS. D. GREENFIELD

Commissioner

This Publication is Issued and Circulated by Authority of the State of Montana

HELENA MONTANA, 1920

INDEPENDENT PUBLISHING CO
HELENA, MONTANA

Digitized by Google

847374

NEW YORK
PUBLIC
LIBRARY

Digitized by Google

FOREWORD

The story of the growth of a commonwealth such as Montana, dealing as it does not only with material things, but those other factors which make for good citizenship, is interesting from other standpoints than that which is called "business."

While this, the tenth annual edition of "Montana," has to do largely with progress in the past twelve months of agriculture, mining, manufacturing, banking, educational and other activities, to him who reads between the lines there is an intimation of romance, of pioneering and of adventure.

One who reads the story of great plants devoted today to turning the raw ore into a finished product, if he has any imagination cannot but recall the time when the pioneer placer miner, taking his life in his hands, traveled over the plains and through the mountains with his prospector's outfit, looking for the yellow metal in the streams of the state.

Reading of the cereal output of the farms of Montana today, there comes a picture of a log house, miles and miles from any town or neighbor, where the believer in the agricultural wealth of Montana is staking his all on his faith, and putting in the first crop of wheat or oats or other grain.

Reading the story of the growth of the mercantile and banking business of Montana, we see the general store at the cross roads, in the mining camp, the bull teams toiling through the valleys and over the mountains, hauling the necessities for the early builders of the state.

The pioneering is not over, nor have all of the opportunities for the man or woman of vision passed. This edition of "Montana" tells the story of the progress made to the present, and he who reads, if he is the same sort as the man and woman who brought this state to its present standard, will realize that the opportunities now are even greater than they have been in the past.

To many "Montana" has been a text book of the resources and the progress of the state. The hope is expressed that this edition may prove as interesting and valuable as its predecessors.

CHARLES D. GREENFIELD, Commissioner.

Digitized by Google

Montana's Wealth Production 1919

Wheat	$25,214,000	
Oats	5,569,000	
Flax	3,067,000	
Barley	756,000	
Corn	2,851,000	
Rye	503,000	
Potatoes	4,512,000	
Hay	19,021,000	
Sugar Beets	700,000	
Total Farm Wealth		$62,193,000
Copper	$33,940,188	
Silver	14,768,000	
Zinc	12,915,000	
Lead	2,411,787	
Gold	2,272,000	
Coal	10,725,000	
Total Minerals		$77,032,895
Beef Cattle Shipped	$28,919,186	
Home Consumption	5,985,000	
Lambs and Sheep	13,329,600	
Wool	15,079,000	
Dairy Products	15,275,517	
Hogs	2,690,000	
Total Livestock		$81,278,303
Lumber		$9,502,007
Grand Total		$230,006,205
Population, 1920 Census		547,593

Digitized by Google

Montana, The State

Varied in Climate, Topography and Resources, Its Characteristics Cannot Be Epitomized. Growth of the State Falls in Six Epochs — Its Century Old Development.

ARIED in climate, topography and natural resources, Montana is not a state whose characteristics can be epitomized and made applicable to the whole commonwealth. In altitude it ranges from less than 2,000 feet to more than 12,000 feet. The growing season varies from as short as 12 days in the high mountains to 148 days in the valleys. One community boasts of its pear and peach orchards and another prides itself upon perennial glaciers. Towering mountain ranges whose peaks are clad in snow the year round and vast evergreen forests are representative of one phase of Montana, and equally representative are the undulating prairies that stretch out endlessly mile after mile where every home garden can be counted upon to include a watermelon patch.

Eastern people, and especially investors, are apt to think of Montana in the terms of some special industry. The man whose money is in a Montana farm mortgage sees only its agricultural possibilities; the stockholder in a mine its vast coal and ore deposits; the lumberman its extensive forests; the livestock breeder its herds of cattle and sheep; the water power magnate its potential industrial possibilities; the oil man the treasures that its oil domes are yielding, while the investor in summer resorts and hotels connotates Montana in terms of sublime scenery and delightfully cool summer nights. Combined, these are the qualities that make Montana.

Third Largest State.

Montana, the third largest state in the Union, contains 147,182 square miles and has a population of ..... Japan, containing 147,655 square miles, has a population of 54,000,000. The state lies between the 45th and 49th parallels of latitude and the 104th and 116th meridians of longitude and averages 275 miles in width from north to south and 535 miles in length.

The average altitude in Montana is 3,400 feet, according to the thirteenth United States geological survey report, which states one-fourth of Montana lies at an altitude of less than 2,000 feet; one-half is less than 3,000 feet in elevation, and three-fourths less than 4,000 feet. The agricultural areas occur mainly in these lower portions of the state. Altitudes of other western states are: Colorado, 6,800 feet; Wyoming, 6,700 feet; Utah, 6,100 feet; Idaho, 5,000 feet; Nevada, 5,500 feet, and Arizona, 4,100 feet. Oregon has a larger area over 4,000 feet in elevation than Montana. Experts assert the lower altitude of Montana tends to offset the greater distance north so that climatic conditions for agricultural purposes are more favorable than in many sections of the states further south.

Three Kinds of Land.

Experts have classified 30,000,000 acres of Montana's 93,000,000 acres as farming land, 26,000,000 acres as mountain and forest land and 37,000,000 acres as grazing land. About one-fourth of the land classified as farming is susceptible of irrigation, or an area nearly equal to the states of Connecticut and Rhode Island combined. Not quite half of this has been placed under the ditch. The total farming land includes an area as great as the state of Wisconsin, Illinois, or Iowa, while the mountain area is about equal to the area of either Indiana, Kentucky, Virginia, Ohio or Tennessee.

Digitized by Google

The Kind of Corn Grown in Richland County in 1919

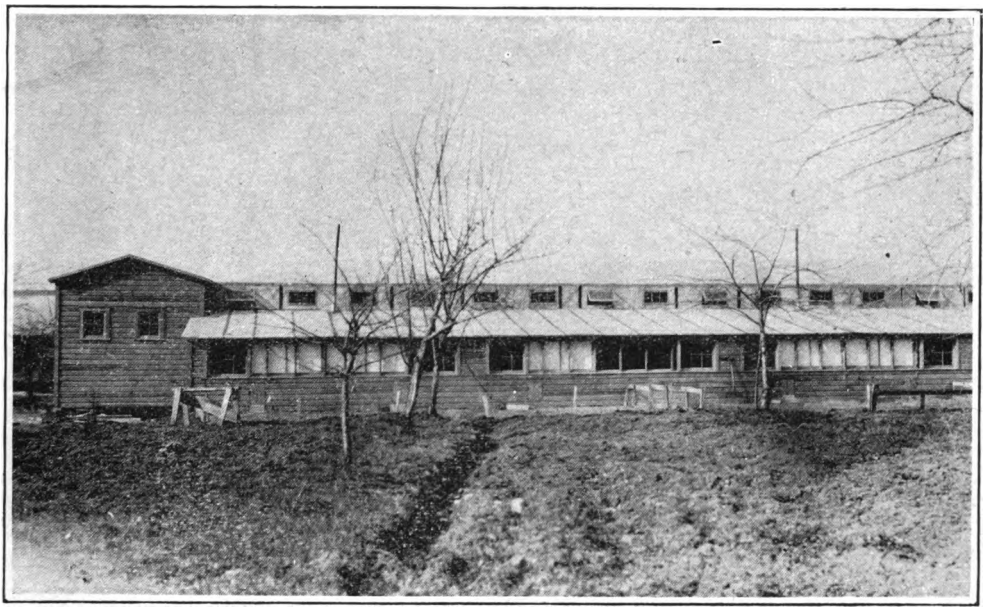
Montana has three watersheds. The drainage of the western part of the state reaches the Pacific through the Clarke Fork of the Columbia river; that of the central and eastern part flows to the Gulf of Mexico through the Missouri river, while that of a portion of the northwestern section of the state flows through St. Mary's river to Hudson Bay.

The mean annual temperature of Montana as determined by the United States weather bureau is 42.4 degrees. Both the temperature and the rainfall of the different parts of Montana are quite materially affected by the main divide of the Rocky Mountains, which crosses the state in a nearly north and south direction. On the western slopes of the divide the precipitation is heavier and the extremes of temperature less marked. The effect of the coast currents also extends over the divide for some distance, the chinooks or warm winds being felt as far as 300 miles east of the crest of the mountains. While Montana occasionally has some low winter temperatures, these, "as a rule," according to Bulletin Q of the U. S. weather bureau, "do not continue for long periods, and are accompanied by a dry and comparatively calm atmosphere, which renders them more endurable to animal life than much higher temperatures where these conditions are absent. * * * The summer temperatures, on the other hand, are never oppressive."

Montana's Six Epochs.

Montana's development may be divided into six epochs. First, its exploration by Lewis and Clark in 1804. Then came the fur traders and a few years later the missionaries. The discovery of gold in the early sixties placed Montana on the map, and two tides of immigration set in; one from the north that contained a strong infusion of persons of Irish descent, and the second composed of sympathizers with the Confederacy. Old time residents of the state assert this second tide of immigration was largely composed of "the left wing of Price's army." Disappointed gold seekers turned to agriculture in the valleys that were adjacent to the mining camps, but not until 40 years later did the real agricultural growth of the state begin. Virtually all of eastern and northern Montana were left to the Indian and the buffalo until the seventies. Southern cattlemen by then had discovered that the luxuriant wild grasses of the prairie region of Montana not only made excellent beef, but that the northern climate made Texas steers that had reached their maturity in the southern country start growing anew. So the trail herds started and founded the cattle range industry in Montana. In the late eighties sheep husbandry obtained a foothold. Outside of mining, live stock raising grew and continued to be the chief industry of the state

Digitized by Google



Western Montana Poultry House

until after 1900. That year settlers began coming in to take up homesteads on the cattle and sheep ranges. Their success attracted others and the tide of immigration grew each ensuing year until it reached its crest a decade later. Agriculture in the past decade completed the transformation of the state that was begun by the gold discoveries of the sixties.

New Epoch Beginning.

Now virtually all the good raw land has either passed into private ownership or has been filed upon. Montana is now entering upon a new epoch, the development and upbuilding of these new farms on the one hand, and the development and utilization in industry and manufacture of its farm products, its live stock husbandry, its minerals and oils and forests, upon the other.

That portion of Montana lying east of the crest of the main range of the Rocky Mountains was part of the Louisiana Purchase; that portion lying west of the crest of the main range was in the Oregon acquisition. France first claimed the region comprising eastern Montana in 1742. In 1764 it was ceded to Spain, and in 1800 France regained it by treaty and sold it to the United States in 1803. Both the United States and England claimed the Oregon region by right of discovery, the former's title being recognized by treaty in 1846.

Montana, as well as Wyoming and a part of Idaho, was included in the Territory of Dakota when it was created March 2, 1861. March 3, 1863, the Territory of Idaho was created from parts of Washington, Dakota and Nebraska, and what is now Montana was incorporated in this territory. Originally western Montana was in Oregon Territory, created in 1848, then in Washington Territory, and later in Idaho. Montana Territory was created May 26, 1864, out of the northeastern part of Idaho. In 1873 Montana Territory was enlarged on the southeast by the incorporation of several thousand square miles of Dakota Territory. In 1889 Montana was admitted to statehood.

While De LaVerendrye in 1742 is credited with being the first white man to explore the Upper Missouri, historians now assert this Frenchman did not enter into the confines of what is now Montana. The leaden plate bearing the coat of arms of France which LaVerendrye was supposed to have buried at the Gate of the Mountains on the Missouri river near Helena, was found some years ago east of Pierre, South Dakota. Lewis and Clark in 1804 are credited with being the first white men to explore Montana.

Digitized by Google

Irrigated Corn on the Lower Yellowstone Project

First White Habitation.

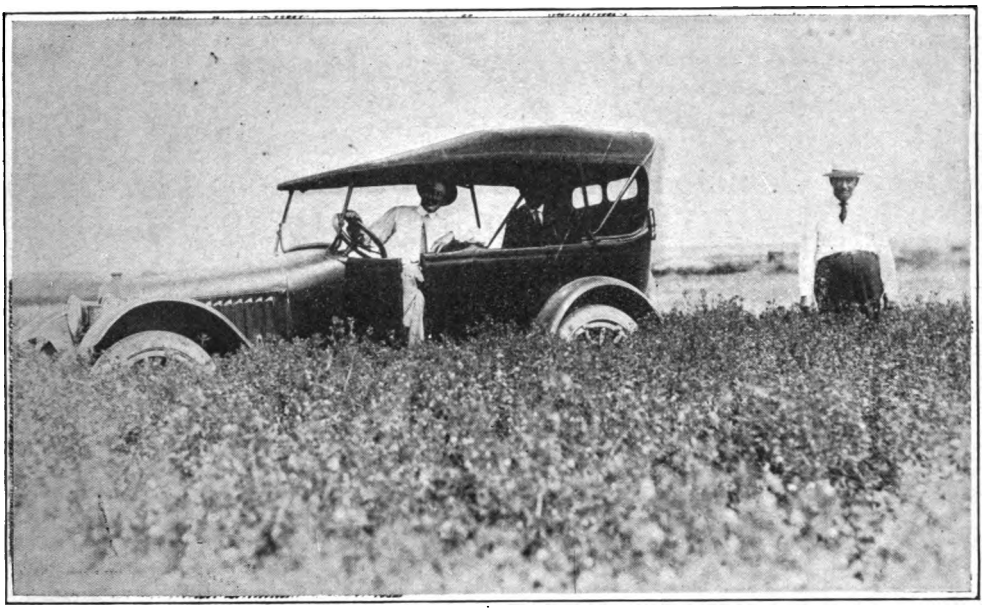
The first white habitation in Montana was built in 1807 on the Big Horn river by Manuel Lisa. It was a trading post. In 1829 Kenneth McKenzie built Fort Union on the north bank of the Missouri river, a short distance above the mouth of the Yellowstone. In 1832 the steamer Yellowstone arrived at Fort Union from St. Louis, giving the region other communication with the outside world than the long and tedious overland route. Quickly other trading posts were established at points westward and in 1846 Alex Culbertson built Fort Benton. Steamers first arrived at Fort Benton from St. Louis in 1860, and from that time onward until the building of the Northern Pacific in 1883, Fort Benton was the chief trading point in Montana. Some supplies for the mines were hauled overland from Corinne, Utah, but most of the merchandise came up the Missouri.

What the lure of the fur trade did in making knowledge of eastern Montana available, the inspired religious zeal of Father De Smet and his associates did for western Montana. In 1845, near the town of Stevensville, Father De Smet established Saint Mary's Mission and later established St. Ignatius Mission in the Flathead valley which for 50 years was a great power for good among the Flathead Indians. In 1845 Father De Smet planted the first grain in Montana, planted the first vegetables, built the first flour mill, and, in short, was Montana's first husbandman.

Discovery of Gold.

But the real development of Montana began with the discovery of gold in commercial quantities. In 1852 a half-breed named Benetsee, who had lived in California, discovered gold on Gold Creek in what is now Powell county. Six years later the Stuart brothers verified the discovery and in 1861 began mining there. About this time gold in paying quantities was found on the Salmon river and its tributaries in Idaho and an immigration from Colorado to the Salmon set in, many of the seekers passing through Montana and prospecting en route. August 16, 1862, John White and others discovered gold on Grasshopper Creek near the old town of Bannack, now in Beaverhead county. Other rich bars were found in the district and mining began in earnest and by January of the following year the town had a population of 500 souls. The fame of the diggings spread throughout the west and gold hunters poured in. Alder Gulch, Madison county, where Virginia City was built, was discovered in the summer of 1863 by William Fairweather's party while returning to Bannack from the Big Horn Mountains in eastern Montana, having been driven out of the region by the Crows. The next important discovery was Last Chance Gulch, where Helena now

Digitized by Google



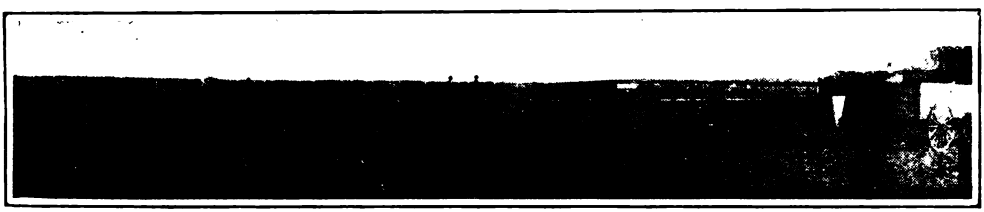
Second Crop of Alfalfa on a Farm Near Glasgow

stands, in the fall of 1864, by John Cowan. During the next decade in Montana about 500 gold bearing gulches varying from half a mile to 20 miles in length were discovered. The gold production of the territory from 1862 to 1876, inclusive, is estimated at $144,400,000. The first quartz lode in Montana was the Decotah lode, located near Bannack November 12, 1862.

History of Butte.

In the winter of that year a crude mill to crush the quartz from this lode was built, and in the next few years machinery was hauled overland from Colorado and gold mills set up in virtually all the mining districts, gold quartz having been found in nearly all the placer camps. The mining camp where Butte now stands was discovered in May, 1864, by G. O. Humphreys and William Allison, although when they arrived there they found an old hole sunk to the depth of four or five feet on what is now the Original lode. The placer mines of the Butte district played out in 1867 and the camp waned, although the year before an 80-foot shaft was sunk on the Original. The Parrott lode had meantime been discovered and a furnace was erected in 1866-1867 in Town Gulch, near the old town of Butte, to treat its ores. The ensuing years were hard ones and only a few men had confidence in the future of the camp. The real history of Butte began January 1, 1875, when William L. Farlin relocated the Travona lode and every stroke of the pick revealed treasures that renewed the faith of the more indomitable miners and encouraged them to go ahead with the development that makes Butte today the greatest copper camp in the world.

When Montana was admitted to statehood there were 16 counties; now there are 53.



Pondera County Farmers Make a Specialty Growing Mortgage Lifters

Digitized by Google

Opportunities in Montana

In Few Commonwealths Are Found the Advantages Offered Here to Forward Looking Citizens. Openings for Farmers, Capitalists and Manufacturers.

EW commonwealths offer the opportunities that Montana does to farmers, capitalists, manufacturers and distributors, but the development of the state has now reached such a point that opportunities to the moneyless man who desires to take up land are not such as they were a decade ago. According to the 1919 report of the United States general land office there are 7,133,594 acres of unappropriated public land in Montana. Some of this is agricultural in character, but most of it is either only fit for grazing or is mountainous in character. The vacant agricultural land in most instances lies remote from the railroads and markets and the man that files on it may have to lead a pioneer life for many years. The man with little capital and a family to support would make surer and faster progress by leasing, or buying on time payments, a farm more accessible to market.

In all parts of Montana there are hundreds of farmers who have reached that age in life where they desire to ease up and would be willing to lease their farms, some with an option to buy, to real farmers. Those who take advantage of such opportunities avoid the expenses of developing a farm, the ground has been tamed, and returns come in the first year. For the new settler with some money perhaps the best opportunity is the purchase of a farm from a homesteader who has obtained title. The hardest and least profitable work in the establishment of a new home has been done, and invariably the purchaser obtains a property at a less figure than is represented in the time and money expended upon it. For the man with more money, splendid opportunities exist on the government, Carey and private irrigation projects. These are all well located with reference to transportation facilities, and water absolutely guarantees a crop every year.

Live Stock Always Prominent.

With nearly one-third of Montana's area composed of land only adapted to grazing, live stock growing will always be a prominent feature of the state's husbandry. Operators are demanding better live stock and thousands of dollars are sent out of the state annually for it. No more inviting field than Montana awaits the breeder of pure bred and registered beef and dairy cattle, draft horses, sheep and swine.

More Capital Needed.

Montana needs capital for turning her raw mineral and agricultural resources into finished products. Annually her output of raw products and her consumption of finished products is increasing. Vast coal measures, an abundance of cheap water power, good transportation facilities, the state has everything needful for the fabrication of raw products into articles of commerce. A start has been made in the manufacture of copper wire and rods, in the establishment of packing houses and in other lines, but it is merely a beginning. The United States forest service asserts Montana offers several unexcelled sites for mills for the manufacture of paper pulp. Montana is one of the largest producers of flax in the United States, but the grain, from which linseed oil and linseed meal is obtained, all goes east for treatment. Thousands of tons of linseed meal are imported annually by stockmen for winter feeding. There are scores of small manufacturing establishments in the state whose obstacle to success is lack of capital.

Digitized by Google

This Field of Timothy in Ravalli County Has Not Been Plowed in Eighteen Years

More machinery for the distribution of products is a need of the state. Large potato warehouses are an instance. Montana potatoes command a premium on the eastern market, and there are a dozen good potato districts in the state whose development is retarded by lack of marketing machinery. Competently managed, potato warehouses would yield a handsome income on the investment besides giving larger returns to the growers through the certainty of a market.

Tourist Hotels Needed.

Only within the past year has Montana awakened to a realization of the fact that her magnificent scenery can be capitalized. The automobile has revolutionized tourist travel and a real opportunity exists in the state today for the building of tourist hotels in attractive spots along the transcontinental and park-o-park highways and the development of summer resorts. These resorts are needed to link up with the establishments in Yellowstone and Glacier National Parks.

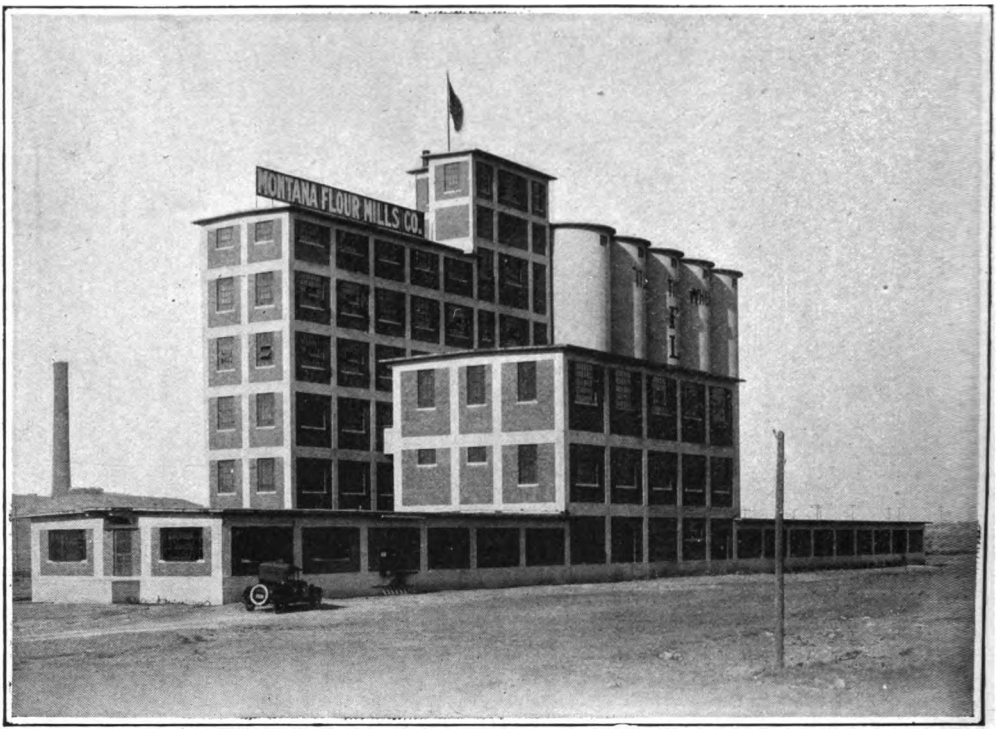
The high price of silver in recent months has turned attention, after a lapse of 20 years, to Montana's deposits of argentiferous ores. Copper and zinc mining, as carried on in Butte, is an undertaking for only large corporations, but practically all the mining regions of the state outside of Butte offer an inviting field to private capital. Considerable risk is involved in such investments, but when successful the returns are large. One of the greatest risks the outsider without mining experience runs is to fall into the hands of wild-catters.

Oil in commercial quantities has been discovered in Montana, and the United States geological survey has platted many so-called oil domes that may or may not be valuable. The oil industry itself is legitimate, but the development of new fields has offered such a fertile field to get-rich-quick promoters that it behooves investors in the Montana field to make the most rigid investigations before parting with their money.

Land a Good Buy.

Montana lands at present values are considered a good investment. In addition to private holdings of both dry and irrigated, improved and unimproved, investors can purchase raw irrigated lands from Carey land act companies, state lands at auctions held at least once every second year in each county, and lands of deceased or incompetent Indians on the Indian reservations. These Indian lands are sold at auction to the highest bidder.

Digitized by Google



Montana Flour Mills Company's Great Falls Plant

In the matter of straight investments, thousands of dollars' worth of school and county bonds are disposed of each year. Another form of investment was provided for at a special session of the legislature in 1919 when the Montana Irrigation Commission was created to foster and encourage the building of legitimate irrigation projects. The commission has supervisory control over the building of the projects and the sale of the bonds which shall be sold at not less than 90 per cent of their face value and bear interest at not to exceed 6 per cent.

At a Farm Picnic in Eastern Montana

Digitized by Google

Production Per Acre Comparisons

In Average Yield for a Decade Montana Land Produces More than Does Land in Twelve Leading Agricultural States of the Country Where Values Are Higher.

THE fundamental value of an acre of ground to the farmer is its production per acre—not its production in a phenomenal year, but its average production year in and year out. Statistics of the United States Department of Agriculture show, using the average production per acre for a decade as a basis, that an acre of ground in Montana has a larger earning power than an acre of ground in Minnesota, Iowa, Wisconsin, Illinois, South Dakota, Ohio, Nebraska, Indiana, Kansas, Michigan, Missouri, North Dakota, or the average for the entire United States.

Montana's average production per acre for the decade of 1909 to 1918, inclusive, of wheat, oats, hay, potatoes and rye, exceeded the average production per acre in the foregoing states as well as the average for the United States. It ranked second in the average production per acre of barley, third in the average production of flax, and eleventh in the average production per acre of corn.

In the Front Rank.

This record is all the more remarkable and significant when it is recalled that this decade included two of the worst drouth years Montana ever experienced (1917 and 1918) and the further fact that the record was made when Montana's agricultural industry was being tremendously expanded by an influx of homesteaders, the majority of whom had insufficient funds, insufficient horse or tractive power, insufficient equipment and insufficient experience of the best kinds of farming adapted to Montana. It was this decade, if there was ever one, when Montana's average production per acre should have been at the minimum. Notwithstanding all these adverse factors, the Treasure State's average production per acre of the leading crops grown in northern states placed it in the front rank of the fourteen principal crop producing commonwealths of the United States.

Compare Montana's average production per acre for the decade with that of Iowa. And let it be remembered that the price of farm lands in Montana ranges from $20 to $100 an acre, and in Iowa from $200 to $500 an acre. Montana's average production per acre of potatoes for the decade was 140 bushels; Iowa's production was 79 bushels, a difference of 61 bushels per acre a year in Montana's favor, or 610 bushels for the decade.

Some Comparisons.

An acre of hay land in Montana produced 1.81 tons of hay a year while an acre of hay land in Iowa produced 1.37 tons of hay a year, a difference of .44 of a ton or 880 pounds a year.

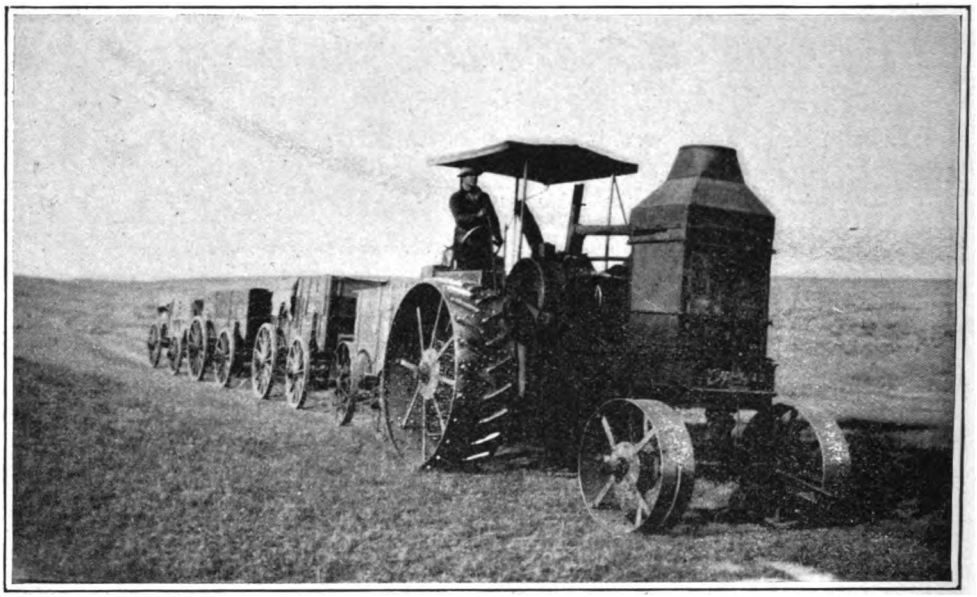
Montana's average production per year of wheat per acre for the decade was 21.8 bushels and Iowa's was 18.8 bushels, a difference of three bushels per acre in Montana's favor.

Montana produced 40.6 bushels of oats per acre each year in the decade while Iowa produced 36.8 bushels, a difference of 3.8 bushels again in Montana's favor.

An acre of Montana ground seeded to rye averaged for each year of the decade 20.5 bushels and an acre of Iowa land in rye averaged 18.3 bushels, a difference of 2.2 bushels per acre in Montana's favor.

It's the same story with barley. Montana produced 29.8 bushels per acre; Iowa 28.2 bushels, a difference of 1.6 bushels in favor of Montana.

Digitized by Google



Utilizing the Tractor in Roosevelt County

Of flax, Iowa produced 10.1 bushels per acre each year of the decade while Montana produced 8.4 bushels, a difference of 1.7 bushels in favor of Iowa.

Corn is a new crop in Montana and its production is just beginning to be understood, but notwithstanding this, Montana produced 25.6 bushels of corn per acre and Iowa 35.3 bushels, a difference in favor of Iowa of 9.7 bushels.

Montana outranked Iowa on six of the eight principal crops grown in the northern states on the average production per acre for the decade. Every farm management survey that has been made in the country has demonstrated that the most successful farmers, those making the largest net incomes, are those whose crops are above the average for the community. If this rule can be applied to the country, when Montana farmers emerge from the development stage they will be more successful and prosperous than the majority of farmers in the principal northern crop producing states.

Soils Are Rich.

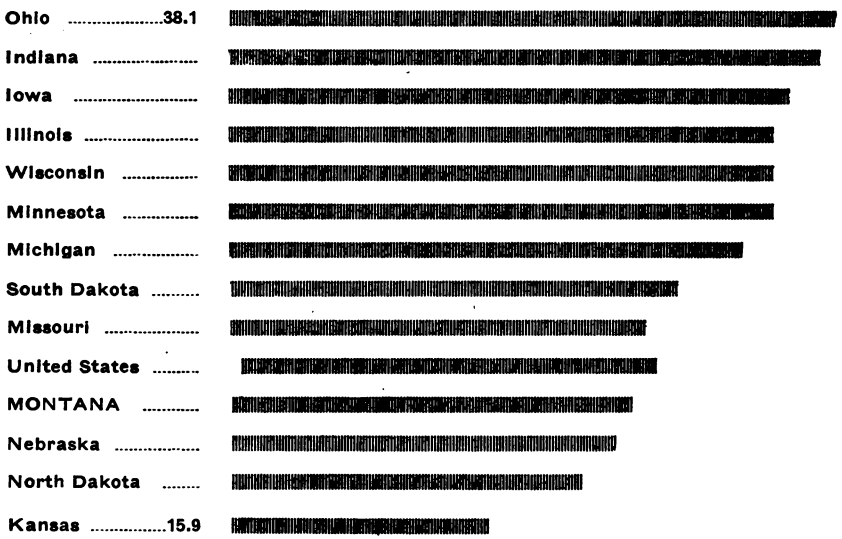
Alfred Atkinson, formerly agronomist, now president of the Montana Agricultural College, says, in this connection: "The high average production per acre as compared with that for the United States is accounted for by the fact that the soils are rich, never having been leached by heavy rains; the climate is favorable, having a larger number of hours of sunshine during the growing months, and some of the crops are grown under irrigation, which tends to large yields."

The following graphs, compiled from the 1918 Yearbook of the U. S. Department of Agriculture, show how Montana's production per acre for the decade of 1909-1918 compares with that of the leading crop states, and with the average for the entire United States:

Digitized by Google

1909-1918 Average Bushels Per Acre Yield.

Corn.



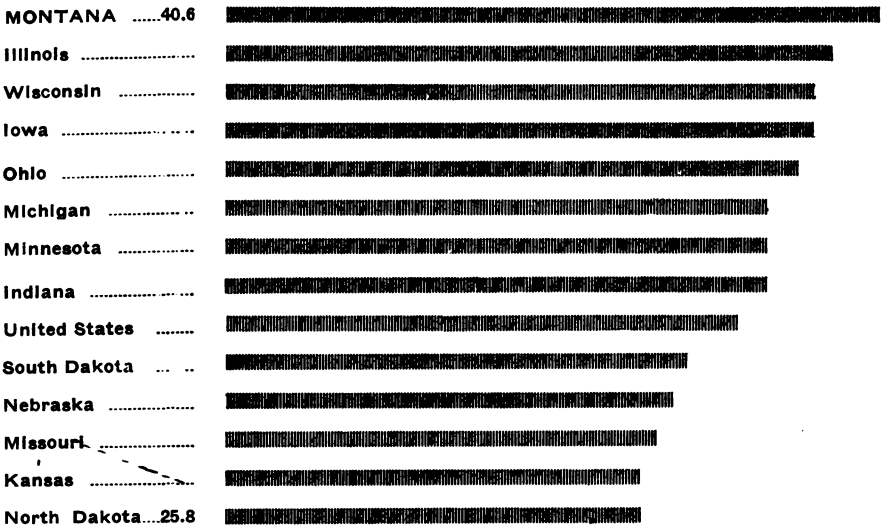
1909-1918 Average Bushels Per Acre Yield.

Wheat.

Digitized by Google

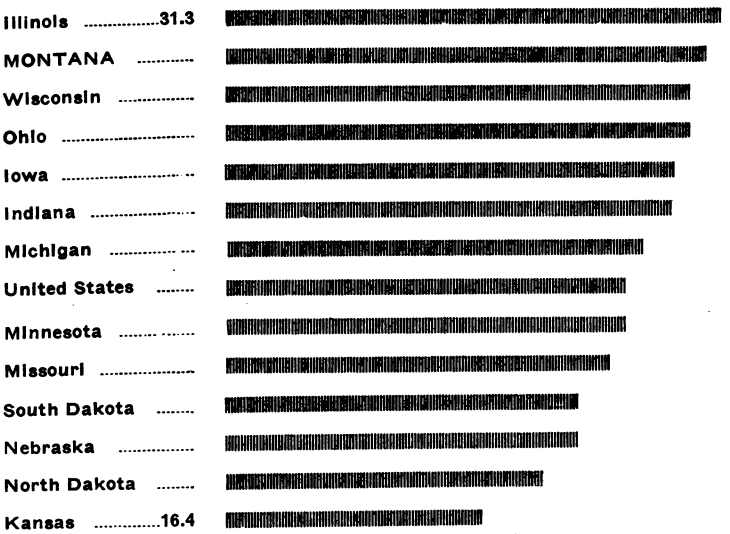
1909-1918 Average Bushels Per Acre Yield.

Oats.



1909-1918 Average Bushels Per Acre Yield.

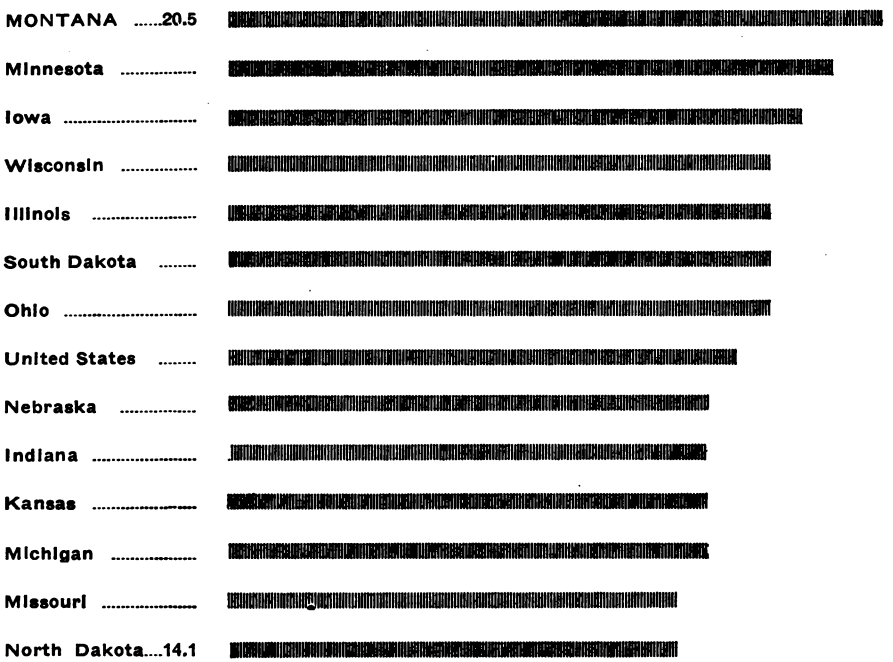
Barley.



Digitized by Google

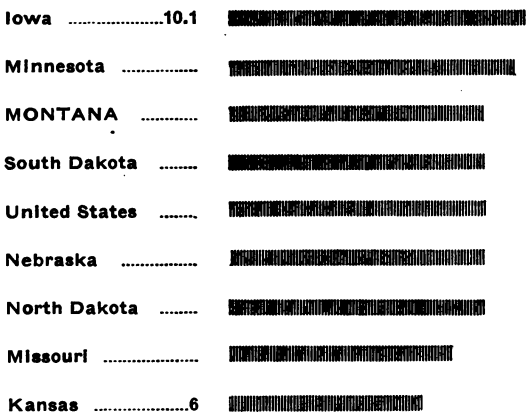
1909-1918 Average Bushels Per Acre Yield.

Rye.



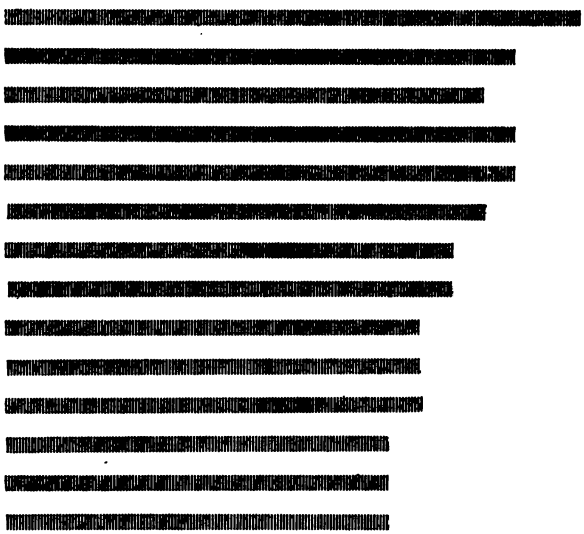
1909-1918 Average Bushels Per Acre Yield.

Flax.

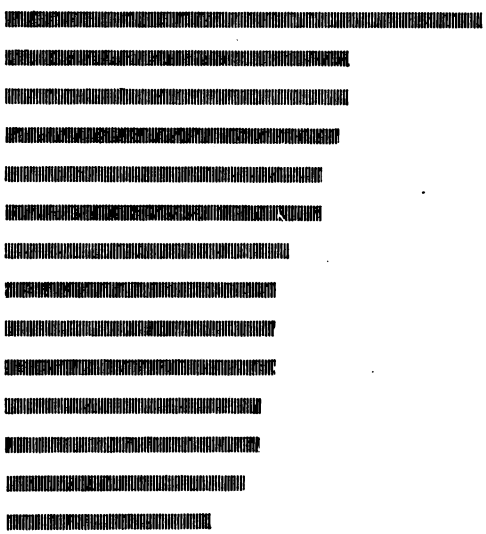


Digitized by Google

1909-1918 Average Tons Per Acre Yield.
Hay.



1909-1918 Average Bushels Per Acre Yield.
Potatoes.



Digitized by Google

Montana Lands

With 30,000,000 Acres of Tillable Land State Has Only One-Sixth Under the Plow at Present—Water Supplied to Less than Half of Area That Is Irrigable.

HE soundest advice that can be given the man contemplating coming to Montana to file upon a homestead is to "look before you leap." This state offers as big opportunities as it ever did, but no longer in homesteading. There are approximately 7,000,000 acres of public land in Montana open to filing, but only a few thousands of these acres are classified by the United States land office as agricultural. Most of the acreage is designated as mountainous or grazing. The lands still open for settlement that are classified as agricultural are remote from railroads and markets and the man who attempts to make a living upon them will do so under an economic handicap.

More Farmers Needed.

The agricultural opportunity still open in Montana becomes apparent when it is realized that of the state's 30,000,000 acres classified as agricultural, the 1920 Yearbook of the United States Department of Agriculture shows only 4,328,000 acres devoted to farm crops. It is safe to assert that gardens, orchards and miscellaneous plantings not enumerated in the Yearbook will bring the total in cultivation to not more than 5,000,000 acres, leaving 25,000,000 acres still to be cropped.

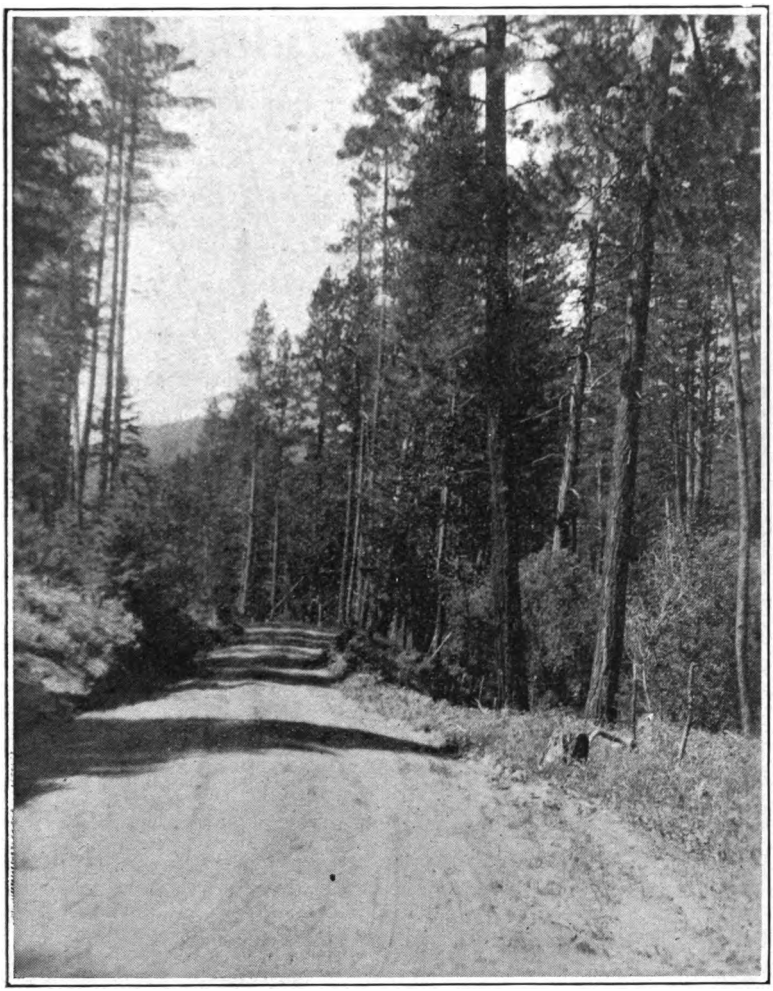
In other words, allowing 160 acres to the farm, Montana needs 156,250 additional farmers to bring all its good agricultural land under cultivation.

With the exception of a soil survey made by the United States Department of Agriculture of the Bitter Root valley, no soil surveys have been made in Montana, and no detailed data concerning the soils is available. The following general description of Montana soils is taken from Bulletin 103 of the Montana Agricultural College Experiment Station: "The soils in Montana are generally good, all classes being represented. In the southeastern part the soils are more of the sandy loam type, becoming heavy in places along the streams. In the valleys of the Upper Missouri gravelly soils are more common, often overlaid with loams but sometimes coming to the surface. In the northern and central sections the various types of clay loam are usual with some gumbo. In the southern portion on the western slope disintegrated granite soils with some volcanic ash are found, while in the northwestern part sandy and loamy soils are common. In some localities alkali is present in sufficient quantities to be harmful. Drainage and a more careful use of water are needed in these places. A natural growth of light sage brush or close sod is typical on the eastern slope of the continental divide. Such lands very seldom require clearing. In many parts of the western slope clearing is necessary, while other sections are covered with sod only."

Land Prices Cheap.

While most of the good agricultural lands are in private ownership, land prices are cheap compared with prices in most other states, and when the productivity of an acre of Montana ground is compared with the productivity of an acre of ground in other farming states, land values are low indeed in the Treasure State. The experienced farmer who has sufficient funds to buy land in addition to his equipment, will make no mistake in buying in Montana. The experienced farmer who has only enough money with which to buy a farm equipment and to get established will perhaps be wiser to lease or rent a place the first few years.

Digitized by Google



In McClellan Gulch, Near Helena

Factors are so diverse in Montana—altitude, topography, length of growing season, accessibility to grazing lands, and others, that many types of farming are being followed, and as the state develops this differentiation will become more pronounced.

Irrigated farming insures the steadiest returns. Approximately 3,000,000 acres are under irrigation, and it is estimated an additional 4,000,000 acres are susceptible of irrigation. It costs more to farm irrigated than non-irrigated land, but returns are more certain and the average crop yields are higher. Specialized crops are more often found on the irrigated lands, such as potatoes, sugar beets, and seed peas. The tendency in many irrigated districts is toward the winter feeding of live stock for market. Under normal conditions it is seldom that the farmer on irrigated land can compete with the farmer on non-irrigated land in growing grain for the market. The former gradually drops out of the business of raising grain for market and goes in for alfalfa and the crops whose money value per acre is large.

Safety in Diversification.

The majority of the settlers on the non-irrigated lands, at least during their first few years, have gone in almost exclusively for grain growing. They did this because most of them had but little money and could not afford to stock their places with

Digitized by Google

This Field of Wheat Grown in Flathead County and Unirrigated Threshed Thirty-five Bushels to the Acre in 1919

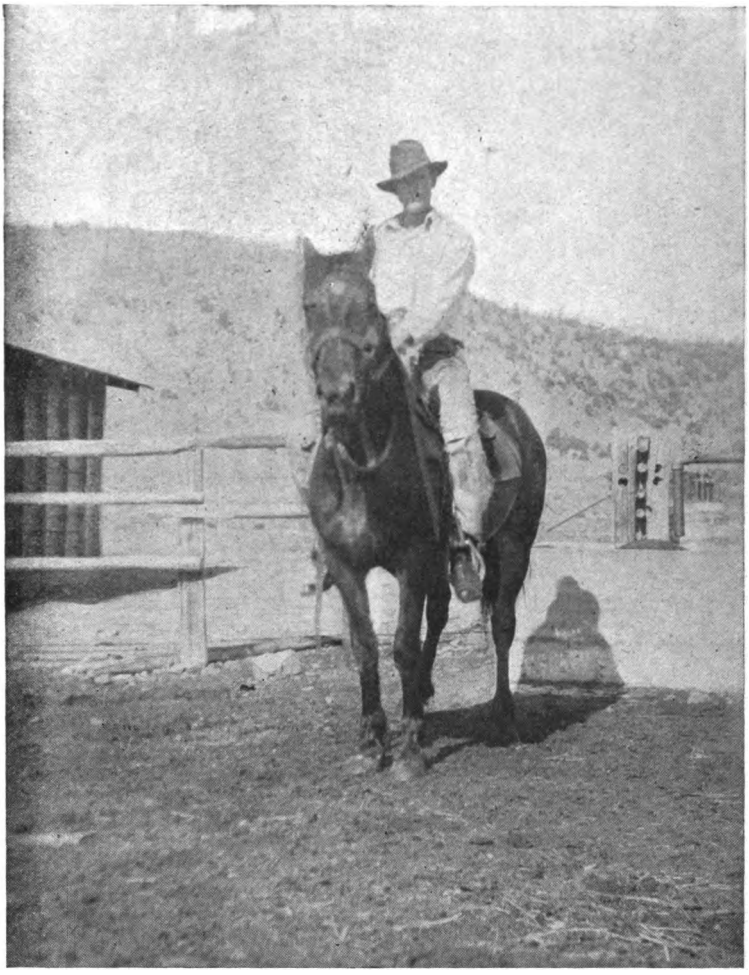
live stock. This has not made for a permanent system of agriculture. In years of deficient rainfall, the surplus of good years was consumed and no reserve was available, and owners have abandoned their farms. Experience has taught the value of diversification. Corn has been introduced into the rotation, taking the place of summer fallowing. Corn and sunflowers are certain crops on non-irrigated farms in the driest of years, and, converted into silage, furnish the feed for cattle and hogs. On the non-irrigated farm, a silo and some live stock is drouth insurance. Most of the non-irrigated farming areas are adjacent to the grazing lands, of which Montana has 37,000,000 acres, and for eight months of the average year the cost to the farmer of growing his live stock is nominal.

That portion of Montana west of the Rocky Mountains offers more varied agricultural opportunities than does the remaining two-thirds of the state. Its valleys are flanked by timbered mountains. Besides large areas of open ground it has thousands of acres of cut-over lands, it has grazing lands and many irrigated tracts. It is the only orchard district of importance in Montana.

Logged-Off Lands.

Cut-over or logged-off lands can be bought cheaply and on long time payments. The man who buys them must remember, however, that a number of years will be required before they can be made productive, or, if they are cleared in a season or two, considerable money must be invested. It is estimated it costs from $50 to $100 an acre to clear logged-off lands. When cleared, however, most of those in Montana are wonderfully fertile. But the man endowed with patience and determination can succeed on these lands, even though he has only a small amount of money, if he goes into the dairying business. Abundant pasture is available for the cows, and it is only necessary to provide winter feed. The milk and cream and butter will provide a living income while the land is being made ready for cultivation. No irrigation is necessary on these logged-off lands. Roughly speaking, the logged-off lands of Montana are in the counties of Lincoln, which has approximately 20,000 acres; Flathead, with 70,000 acres; Missoula, with 40,000 acres; Mineral, with 35,000 acres; Sanders, with 25,000 acres, and Ravalli, with 30,000 acres.

Digitized by Google



First Time Under the Saddle

Lands Owned by State.

The State of Montana is the largest individual land holder in the commonwealth. November 30, 1919, it owned 4,349,570 acres, of which 3,228,308 acres were leased, all but 280,000 acres for grazing purposes. The rental of state land for grazing purposes averages 12½ cents an acre per annum, and for agricultural purposes 31 cents an acre. Some of the best lands in Montana are owned by the state, and these can be bought at public auction, on easy, long time payments. The state has some land included within the federal reclamation projects that can be sold or leased, but if sold, title cannot be transferred by the state until the purchaser presents a certificate showing that all charges of the federal government in connection with the reclamation of the tract have been paid in full.

Granted to the state by the national government when Montana entered the Union, for the support of its public schools and for the benefit of its higher educational institutions, Sections 16 and 36 in each township, outside Indian reservations and national forest reserves, are state lands unless they have been sold, and in addition to these two sections in each township the state made selections in all parts of the state in lieu of lands it was entitled to that lie within national forests.

Digitized by Google

Montana Wheat Ready for the Thresher

These state selections were made before the great rush of homesteaders absorbed the most available part of the public domain, and it is therefore possible to secure many desirable tracts in the best developed sections of the state. For those who do not wish to reside upon the land while securing title, the purchase of state lands is strongly recommended.

Sales of state lands are made at public auction, a sale being usually held in each county once a year. The land is sold for not less than the appraised price, the minimum being $10.00 per acre. Sales are made upon the basis of 15 per cent cash, the remainder of the purchase price to be paid in twenty equal annual installments with interest at the rate of 6 per cent.

How to Secure State Land.

The State Board of Land Commissioners is custodian of all state lands, and the fixing of sale dates is discretionary with this board. Those who desire to buy or lease state land should make formal application to the Register of State Lands, Helena, Montana, upon the receipt of which, together with a fee of 50 cents, the land will be offered for sale at public auction at the next sale held in the county where the land is situated. Advance notice of sale will be mailed the applicant. Sales of state land can be made only to citizens of the United States or to those who have declared their intention to become such or to corporations organized under the laws of the state

The amount of state land which may be purchased by any individual or corporation is strictly limited by law, to the end that the land, when sold by the state, will pass directly into the possession of actual settlers. Not more than 160 acres classified as agricultural land and susceptible of irrigation, nor more than 320 acres classified as agricultural land not susceptible of irrigation, nor more than 640 acres classified as grazing land can be sold to one purchaser.

Leases on State Lands.

State lands still unsold may be leased for a period not exceeding five years, and the purchaser of the state land upon which a lessee has improvements must pay the lessee a reasonable value therefor. If the lessee and the purchaser cannot agree on the value of the improvements, the State Land Agent fixes the price the purchaser must pay for the same. Lessees of state land are required to pay a rental for grazing use of from $50.00 to $120.00 per section per annum and for agricultural use of from $200 to $400 per section per annum.

The following table shows the acreage of state land in each of the several counties of the state:

Digitized by Google

Lands on Indian Reservations.

Nearly every year sales of lands on Indian reservations in Montana, belonging to deceased or non-competent Indians, are offered for sale at public auction, the appraised price of the tract being the minimum bid accepted. Many of these tracts are irrigated and are desirable in every way.

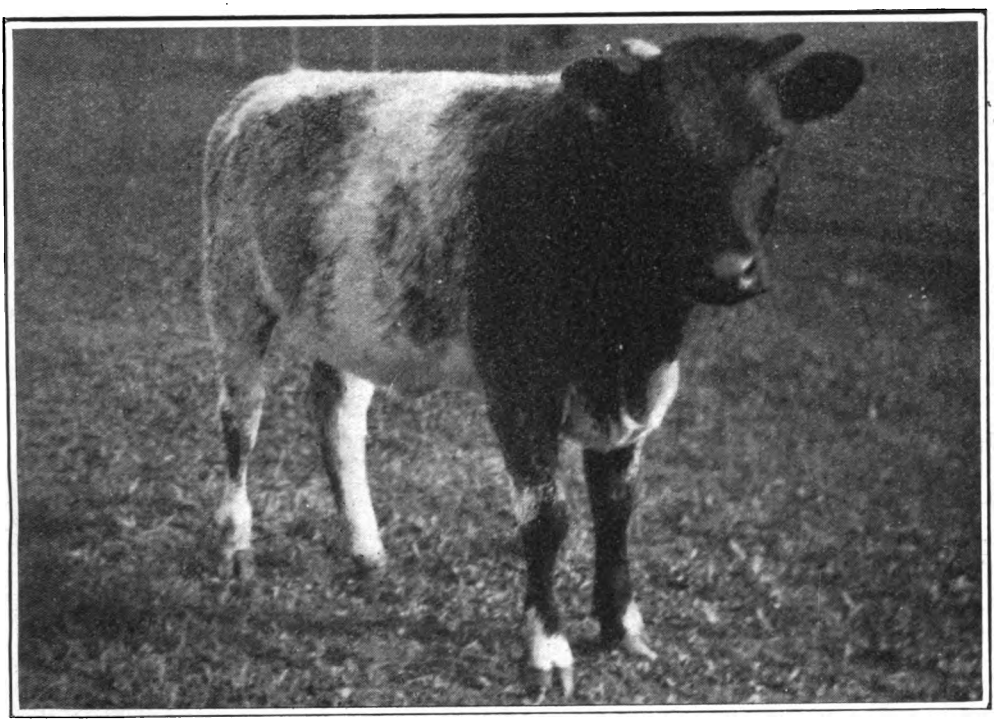
Persons wanting particulars regarding such lands should write to the Bureau of Indian Affairs, Interior Department, Washington, D. C.

Public Lands.

The report of the commissioner of the general land office for July 1, 1919, shows there is a total of 7,133,594 acres of public land in Montana open to homestead entry. Considerable of this land has not yet been surveyed. The total acreage by counties and its character, given by the general land office, is shown by the following table:

County.	Acres.	Character.
Beaverhead	672,737	Arid, mountainous, grazing
Big Horn	95,461	Mountainous, grazing, agricultural
Blaine	356,567	Mountainous, grazing, agricultural
Broadwater	33,560	Mountainous, grazing
Carbon	225,583	Mountainous, grazing
Carter	594,077	Grazing, agricultural
Cascade	23,962	Grazing, agricultural
Chouteau	107,298	Mountainous, grazing, agricultural
Custer	130,344	Grazing, agricultural
Dawson	193,364	Grazing, agricultural
Deer Lodge	6,280	Grazing
Fallon	18,334	Grazing, agricultural
Fergus	301,400	Grazing, agricultural
Flathead	67,500	Mountainous, timber
Gallatin	18,844	Mountainous, grazing
Glacier	1,069	Grazing, agricultural
Granite	115,313	Mountainous, timber, mineral
Garfield	500,220	Grazing or dry farming
Hill	58,524	Mountainous, grazing, agricultural
Jefferson	77,029	Mountainous, grazing
Lewis and Clark	237,380	Mountainous, grazing, agricultural
Lincoln	2,300	Grazing, agricultural
Madison	257,304	Mountainous, grazing
McCone	145,880	Grazing and dry farming
Meagher	22,800	Grazing
Mineral	57,697	Mountainous, timber, mineral
Missoula	50,897	Mountainous, timber, mineral
Musselshell	31,385	Mountainous, grazing
Park	36,210	Mountainous, grazing
Phillips	965,500	Grazing or dry farming
Powell	162,797	Grazing, timber, mineral
Pondera	2,675	Grazing, mountainous, agricultural
Powder River	221,923	Grazing, agricultural
Prairie	30,508	Grazing, agricultural
Ravalli	2,611	Mountainous, timber, grazing
Richland	9,846	Grazing or dry farming
Rosebud	214,988	Mountainous, grazing, agricultural
Roosevelt	63,252	Grazing or dry farming
Sanders	73,083	Grazing or dry farming
Sheridan	40,334	Grazing or dry farming
Silver Bow	30,040	Grazing
Stillwater	32,539	Mountainous, grazing
Sweet Grass	64,589	Mountainous, grazing
Teton	35,495	Mountainous, grazing, agricultural
Toole	23,211	Mountainous, grazing, agricultural
Treasure	1,800	Grazing, agricultural
Valley	696,730	Grazing or dry farming
Wheatland	2,160	Rough, grazing
Wibaux	12,040	Grazing, agricultural
Yellowstone	11,074	Mountainous, grazing
Total acres	7,133,594	

Digitized by Google



This is a Sheridan County Youngster

Persons desiring information regarding the homestead laws, and how to make filings, should write to the commissioner of the general land office, Washington, D. C.

Private Lands Can Be Bought.

The best land in Montana at the present time is in private ownership. A good deal of this land was homesteaded in an earlier day, much of it has been bought from the railroads by syndicates and others for the purpose of sale, while other farms are divisions of former large cattle ranches, which have now been divided up into smaller tracts and turned to cultivation. This land can be bought at from $15 to $65 an acre, depending upon improvements and location.

How to Get Located.

There are no maps issued showing the vacant land in the state, for the reason that the map would soon be out of date. The best way to find the land is to come to the state for a personal investigation. The expense is trifling when compared with the benefits that will be attained. If this is not possible the best procedure is as follows:

Pick out the section of the state in which you desire to locate. Get in touch by letter with the Commercial Club of the nearest town or the county seat, or with the farm bureau president in that county. Either the Commercial Club secretary or the farm bureau president will furnish truthful information about the county and will be able to see that you are put in touch with just what you want. They will also see that you are looked after and definitely settled when you finally move to Montana.

The names and addresses of the Commercial Club secretaries and the farm bureau presidents in the various counties will be cheerfully furnished by this department upon application.

Digitized by Google

Farm Products

Inclusive of the Three Driest Years Montana Ever Experienced, Average Production Wheat for Decade Was Over 19 Bushels—Value 1919 Crop Upwards of $62,000,000.

ECAUSE of the worst drouth in the history of Montana, the total value of farm products raised in 1919 was less than it has been in many years. The aggregate value of wheat, oats, flax, barley, corn, rye, potatoes and hay, according to the Yearbook of the United States Department of Agriculture, was $61,493,000. In 1918 the value of these crops was $114,000,000. The Yearbook gives the 1919 acreage devoted to these crops in Montana at 4,328,000. In addition there were 5,000 acres of sugar beets grown, producing a crop valued at approximately $700,000, making a total crop value for the state in 1919 of $62,193,000. This is exclusive of the acreage devoted to gardens, seed peas and miscellaneous crops of minor importance.

While the drouth fell heaviest upon the non-irrigated districts, the irrigated farms were also affected. The snowfall in the winter of 1918-1919 was the smallest of which the United States weather bureau has record; the usual June rains did not come, and except at two of the forty weather stations maintained in Montana the precipitation in 1919 was less than ever known in a record extending back as far as forty-five years. So serious was the situation that many Montana municipalities which had never before experienced a water shortage were forced to prohibit the use of water for lawns and gardens.

Win Notable Victories.

Notwithstanding the unfavorable season, Montana continued its record of winning notable victories in competition with other states. At the International Hay and Grain Show held in Chicago in December of 1919, Montana took first prize in the single ear corn class; third prize for yellow corn and fifth for white corn. Montana also won first, second, third, fourth, sixth, seventh and eighth places for the best hard winter wheat. Competition was particularly stiff in this class, the Canadians having set out to capture the prizes. In the oats class Montana won second and third places, fourth on barley, first on red clover, and first on timothy. Montana took fourth on alfalfa, thirteenth and seventeenth places on hard spring wheat and fourth place in the white soft wheat class. Montana's showing was especially creditable in view of the fact the Montana Seed Growers' Association did not determine to enter the contest until the last minute, when its display was hurriedly assembled and shipped.

What Montana Has Won.

Since 1910 Montana has won the highest honors in every American competition in grains. The first of these notable victories was at the Madison Square Garden Land Show, held in New York City in 1911, when Montana wheat, oats, barley and alfalfa carried off the sweepstakes prizes for the United States.

This was followed by the highest wheat and barley awards at the St. Paul Land Products Show, and the following year Montana won the $5,000 prize for the best five bushels of wheat exhibited at the St. Paul Land Show. Incidentally, this was the largest single prize ever offered in a grain contest. The Dry Farming Congresses of both 1913 and 1914 acknowledged Montana's superior wheat, alfalfa and timothy; and at the National Corn Show in Dallas, Texas, in 1914, the state carried off the world's championship prizes in wheat, barley, oats, flax and timothy. To these splendid awards were added new laurels in 1915 when the Panama-Pacific Exhibition at

Digitized by Google

San Francisco honored Montana with the highest competitive award in the division of agriculture, and by the San Diego Exposition granting it the grand prize in cereals.

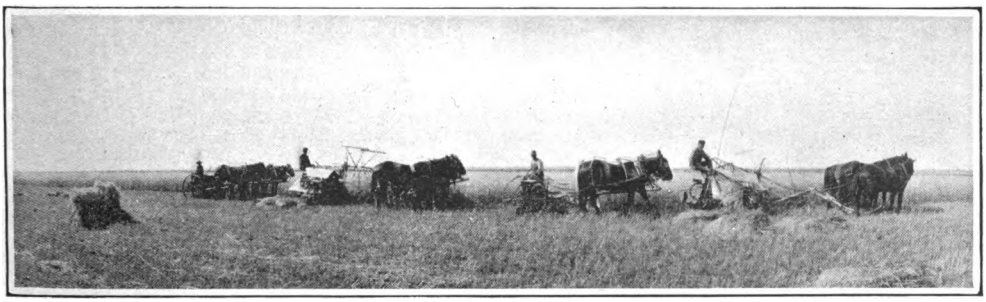
Perhaps the best place to get a birdseye view of what Montana is capable of in agriculture, horticulture and live stock raising is at the State Fair, held each fall at Helena. Severely hit as the state was by the dry year of 1919, there were 21 county collective agricultural exhibits at the fair that fall and over 300 individual agricultural entries. Photographs of the county collective and other exhibits at the 1919 fair were displayed at the meeting in Chicago of the International Association of Fairs and Expositions, and the consensus of opinion of those in attendance was that the 1919 Montana State Fair, while by no means the largest, was the finest agricultural exhibition in the United States.

Wheat Is Chief Crop.

While Montana's yield of wheat in 1919 was poor, the acreage devoted to the crop was the largest known. Wheat will always be one of the principal crops and as the state develops the acreage devoted to it will grow. What Montana can be expected to do in wheat growing is better shown by its average annual production per acre for a decade. For the decade of 1910-1919, which includes the three driest years Montana has known, the average production per acre was 19.2 bushels, according to the Yearbook of the U. S. Department of Agriculture.

The following table shows the acreage, production and value of the wheat crop for the past 20 years:

Year	Acre	Bu. Per Acre	Production	Value
1900	72,555	26.6	1,929,963	$ 1,177,277
1901	88,807	26.5	2,353,386	1,576,769
1902	90,583	26.0	2,355,158	1,460,198
1903	98,735	28.2	2,784,327	1,837,656
1904	108,608	23.9	2,596,731	2,311,091
1905	119,469	23.8	2,843,326	2,018,787
1906	137,389	24.0	3,297,336	2,110,295
1907	139,000	28.8	4,003,000	3,243,000
1908	153,000	24.2	3,703,000	3,185,000
1909	350,000	30.8	10,764,000	9,364,000
1910	480,000	22.0	10,560,000	9,081,000
1911	429,000	28.7	12,299,000	9,470,000
1912	803,000	24.1	19,346,000	12,381,000
1913	870,000	23.8	20,673,000	13,644,000
1914	910,000	20.2	18,356,000	16,704,000
1915	1,590,000	26.5	42,180,000	32,900,000
1916	1,485,000	19.3	28,655,000	46,134,000
1917	1,727,000	10.4	17,963,000	34,489,000
1918	2,386,000	12.6	29,961,000	58,124,000
1919	2,221,000	4.8	10,729,000	25,214,000



Cutting a Grain Crop in Pondera County

Digitized by Google

Winter Wheat.

While not all portions of Montana are adapted to the growing of winter wheat, the yields per acre average a little higher than does spring wheat. The following table shows the acreage, production and value of winter wheat for the past three years, all of which were drouth years:

Year	Acre	Bu. Per Acre	Production	Value
1917	605,000	13.0	7,865,000	$15,101,000
1918	682,000	12.7	8,661,000	16,802,000
1919	580,000	5.2	3,016,000	7,088,000

Spring Wheat.

During the past three years Montana farmers, responding to the request of the federal government, patriotically expanded their acreage of wheat, chiefly of the spring variety. In many cases farmers tried to handle more land than their resources warranted, and this, coupled with the fact that the same years were the driest the state ever experienced, markedly reduced the yields. The following table shows the acreage, production and value of spring wheat for the past three years, all of which were drouth years:

Year	Acre	Bu. Per Acre	Production	Value
1917	1,122,000	9.0	10,098,000	$19,388,000
1918	1,704,000	12.5	21,300,000	41,322,000
1919	1,641,000	4.7	7,713,000	18,126,000

Oats a Staple Crop.

Oats is one of the staple crops of Montana and the quality of this grain raised in Montana is unexcelled. While the legal standard is 32 pounds of oats to the bushel, Montana oats average upwards of 40 pounds to the bushel and frequently go above 50 pounds. Montana oats are in demand by the cereal mills for use in break fast food preparations. The following table shows the acreage, yield, production and value of oats in Montana since 1900:

Year	Acre	Bu. Per Acre	Production	Value
1900	65,865	39.0	2,568,735	$ 1,078,869
1901	147,365	42.0	6,189,330	2,228,159
1902	159,154	41.9	6,668,553	2,400,679
1903	162,337	46.4	7,532,437	2,636,353
1904	167,207	37.7	6,303,704	2,899,704
1905	178,911	41.3	7,389,024	3,177,280
1906	196,802	43.2	8,501,846	3,740,812
1907	240,000	49.0	11,760,000	5,410,000
1908	254,000	41.6	10,566,000	5,177,000
1909	300,000	51.3	15,390,000	6,464,000
1910	350,000	38.0	13,000,000	6,118,000
1911	425,000	49.8	21,165,000	8,466,000
1912	476,000	48.0	22,848,000	7,997,000
1913	500,000	43.5	21,750,000	6,960,000
1914	530,000	35.0	18,550,000	7,234,000
1915	600,000	52.0	31,200,000	9,984,000
1916	660,000	38.0	25,080,000	11,788,000
1917	680,000	20.0	13,600,000	11,016,000
1918	680,000	30.0	20,400,000	16,320,000
1919	612,000	10.0	6,120,000	5,569,000

Flax a Pioneer Crop.

Wth flax usually the first crop planted on new sod, and with three-fourths of Montana agricultural lands still to be brought under cultivation, this crop is destined to occupy an important place on Montana farms for many years to come. It is one of the surest crops for non-irrigated farms and its monetary value is high. Because of the request of the government for an expansion of the wheat acreage, the flax acreage was reduced the past two years, but it is believed flax will again receive more attention. The acreage, production, and value of the flax crop in Montana since 1901 is shown by the following table:

Digitized by Google

Year	Acre	Bu. Per Acre	Production	Value
1901	16	13.7	200	$ 268
1902	12,500	9.0	112,500	76,500
1903	12,625	14.0	176,750	106,050
1904	9,334	8.0	74,672	70,938
1905	16,570	10.0	165,700	135,874
1906	24,855	12.0	298,260	298,260
1907	34,000	13.0	436,000	353,000
1908	9,000	11.5	104,000	104,000
1909	10,000	12.0	120,000	192,000
1910	60,000	7.0	420,000	1,008,000
1911	425,000	7.7	3,272,000	5,890,000
1912	460,000	12.0	5,520,000	6,182,000
1913	400,000	9.0	3,600,000	4,140,000
1914	300,000	8.0	2,400,000	2,880,000
1915	250,000	10.5	2,625,000	4,462,000
1916	325,000	9.5	3,088,000	7,658,000
1917	583,000	3.0	1,749,000	5,160,000
1918	547,000	3.0	1,641,000	5,547,000
1919	410,000	1.7	697,000	3,067,000

Barley a Feed Crop.

Though the acreage devoted to barley in Montana is not nearly as large as that given other grains, its importance is increasing as diversification increases and more stock is fattened. Barley is found especially in the irrigated districts and any yield under 50 bushels to the acre is considered poor. Montana farmers are finding barley, skim milk and alfalfa a winning combination for the production of pork. The acreage, production and value of the barley crop in Montana since 1900 is as follows:

Year	Acre	Bu. Per Acre	Production	Value
1900	5,194	38.8	201,527	$ 96,773
1901	16,398	39.0	639,522	364,528
1902	17,874	37.0	661,338	337,282
1903	18,231	40.2	732,886	425,074
1904	17,502	29.9	523,310	324,452
1905	15,227	33.0	512,491	281,395
1906	14,313	33.0	472,329	264,504
1907	17,000	38.0	646,000	400,000
1908	25,000	35.0	875,000	534,000
1909	50,000	38.0	1,900,000	1,197,000
1910	52,000	28.0	1,456,000	903,000
1911	31,000	34.5	1,070,000	728,000
1912	39,000	36.5	1,424,000	755,000
1913	60,000	31.0	1,860,000	893,000
1914	70,000	30.5	2,135,000	1,132,000
1915	80,000	34.0	2,720,000	1,306,000
1916	95,000	28.0	2,660,000	2,022,000
1917	90,000	15.0	1,350,000	1,390,000
1918	87,000	22.0	1,914,000	1,914,000
1919	90,000	6.0	540,000	756,000

Corn Growing Important.

Particularly in the eastern half of Montana corn growing has become a permanent part of the crop rotation, and on the non-irrigated farms is supplanting summer fallowing in the alternate years. The experience of 20 years has demonstrated that certain strains of corn are acclimated to Montana conditions. The crop is viewed with favor because its moisture requirements are less than wheat, and it furnishes fodder for live stock in dry years. At the International Hay and Grain Show at Chicago in December of 1919, in competition with entries from the corn belt, Montana took first in the single ear corn class, third and sixth on yellow corn and fifth in the white corn class. The following table gives the statistics on corn growing in Montana since 1900:

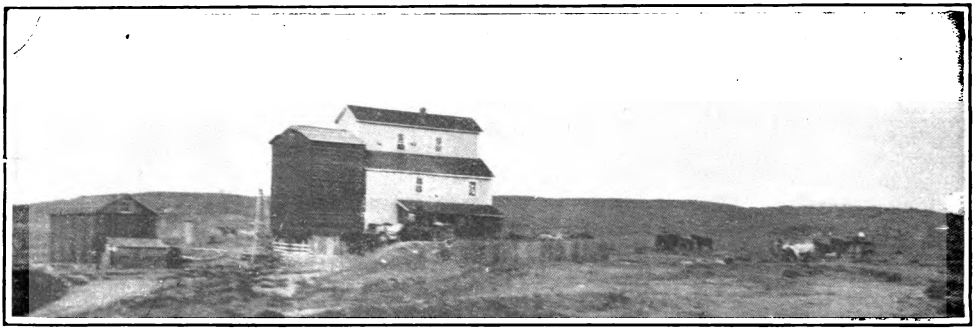
Digitized by Google

Year	Acre	Bu. Per Acre	Production	Value
1900	1,598	15.0	23,970	$ 14,172
1901	3,095	25.0	77,375	69,638
1902	3,714	22.0	81,708	58,830
1903	3,788	24.1	91,291	56,600
1904	3,902	22.2	86,624	58,904
1905	3,941	19.4	76,455	51,989
1906	3,980	23.4	93,132	60,536
1907	4,000	22.5	90,000	61,000
1908	4,000	23.4	94,000	85,000
1909	5,000	35.0	175,000	150,000
1910	8,000	23.0	184,000	175,000
1911	20,000	26.5	530,000	424,000
1912	24,000	25.5	612,000	428,000
1913	28,000	31.5	882,000	679,000
1914	50,000	28.0	1,400,000	1,064,000
1915	70,000	28.0	1,960,000	1,352,000
1916	74,000	25.0	1,850,000	1,720,000
1917	81,000	12.5	1,012,000	1,771,000
1918	100,000	21.0	2,100,000	2,835,000
1919	128,000	13.5	1,728,000	2,851,000

Rye a Sure Crop.

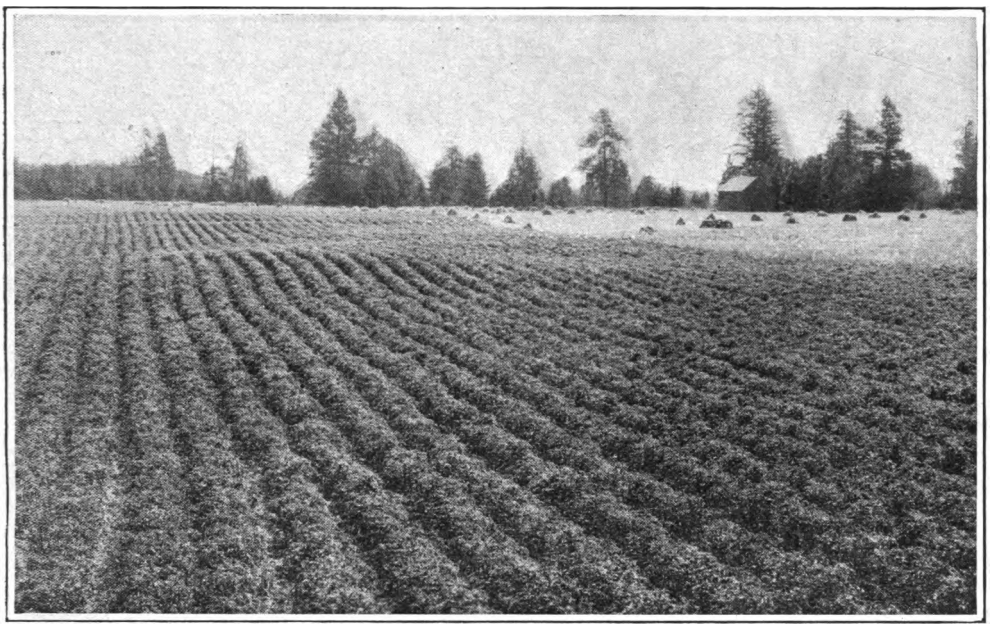
Because it is one of the surest and hardiest crops that can be raised, Montana farmers have increased the acreage devoted to rye five-fold in the past two years. Its production since 1901 in Montana is shown by the following table:

Year	Acre	Bu. Per Acre	Production	Value
1901	1,834	26.7	48,968	$ 29,381
1902	1,871	25.0	46,775	29,936
1903	1,890	24.6	46,494	29,291
1904	1,871	19.9	37,233	28,669
1905	1,871	20.0	37,420	24,324
1906	2,021	20.5	41,430	27,344
1907	2,100	22.4	47,000	32,000
1908	2,000	20.0	40,000	27,000
1909	2,000	29.0	58,000	44,000
1910	4,000	20.0	80,000	54,000
1911	8,000	23.0	184,000	132,000
1912	10,000	23.5	235,000	141,000
1913	10,000	21.0	210,000	116,000
1914	10,000	21.0	210,000	147,000
1915	10,000	22.5	225,000	146,000
1916	10,000	20.5	205,000	197,000
1917	9,000	12.7	114,000	188,000
1918	25,000	12.0	300,000	432,000
1919	68,000	4.0	272,000	503,000



Flour Mill at Jordan in Garfield County

Digitized by Google



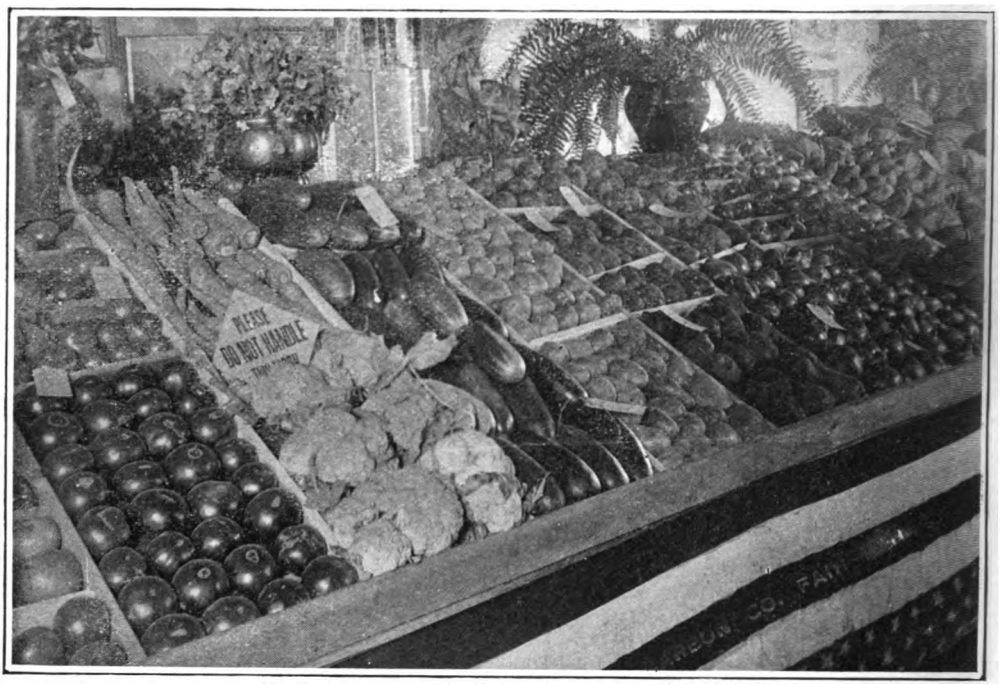
An Unirrigated Montana Potato Field in 1919

Potatoes a Banner Crop.

Montana has probably received more widespread advertising on its potato than on any other crop. Its "great big baked potato," used by one of the transcontinental railroads in its dining cars, called attention to the excellence of its tubers. Montana potatoes usually command a premium on the eastern markets because they are good eaters and fine keepers. Furthermore, the average yield of tubers in Montana is far above the average of the United States. Because the crop is so well suited to Montana conditions and is grown without the use of fertilizers, a number of the districts in the state—the Bitter Root, the Flathead, Jefferson, Lewis and Clark and Madison counties—are specializing in it and increasing their acreage each year. The acreage, production and value of the potato crop in Montana since 1901 are as follows:

Year	Acre	Bu. Per Acre	Production	Value
1900	4,781	134	640,654	$ 339,547
1901	.....	.....	.....	.....
1902	11,521	153	1,762,713	881,356
1903	12,904	176	2,271,104	999,286
1904	13,162	143	1,882,166	1,148,121
1905	13,668	120	1,642,560	969,110
1906	14,099	152	2,143,048	1,307,259
1907	18,000	150	2,700,000	1,350,000
1908	20,000	138	2,760,000	1,932,000
1909	25,000	180	4,500,000	2,295,000
1910	25,000	120	3,000,000	2,550,000
1911	27,000	150	4,050,000	2,997,000
1912	37,000	165	6,105,000	2,442,000
1913	36,000	140	5,040,000	3,377,000
1914	37,000	140	5,180,000	3,315,000
1915	39,000	155	6,045,000	3,022,000
1916	39,000	125	4,875,000	5,850,000
1917	57,000	95	5,415,000	5,523,000
1918	52,000	135	7,020,000	5,616,000
1919	47,000	60	2,820,000	4,512,000

Digitized by Google



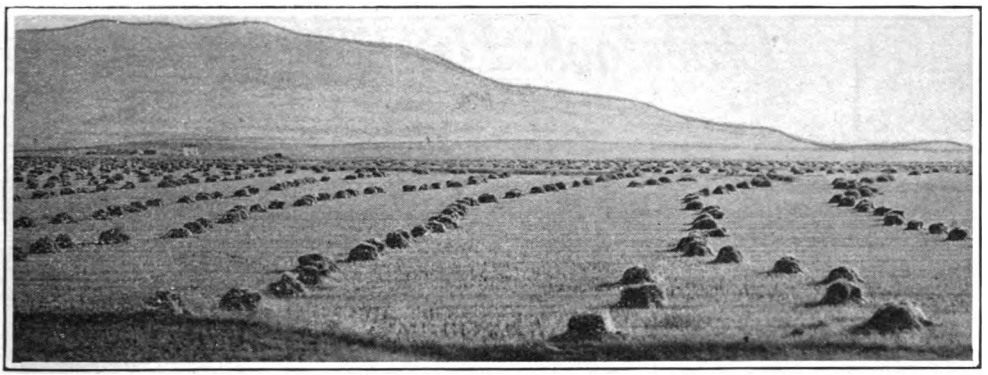
Some Carbon County Farm Products

Hay Always Needed.

With one-third of Montana's total area classified as fit only for grazing, live stock growing will always be of much importance in the state, and to supplement the grazing tracts hay lands for winter feeding are necessary. The acreage devoted to hay was reduced because of the war, but indications now are that this year much land will be seeded back, principally to alfalfa. Montana hay is stronger than hay grown in the prairie states, chiefly because of the higher altitude here. Hay grown in higher altitudes ordinarily contains a higher percentage of protein and has a lower crude fiber content, and hence is more easily digested. Statistics on hay in Montana since 1900 are given in the following table:

Year	Acre	Tons	Value Per Acre	Value
1900	369,161	590,658	$13.92	$ 5,138,725
1901	.....	.....	.....	.....
1902	313,606	526,858	7.54	3,972,509
1903	335,558	697,961	8.81	6,149,036
1904	348,980	670,042	16.70	5,829,365
1905	362,939	580,702	7.70	4,471,405
1906	373,827	691,580	8.90	6,155,062
1907	500,000	850,000	9.50	8,075,000
1908	525,000	1,050,000	8.30	8,768,000
1909	556,000	995,000	10.00	9,950,000
1910	600,000	840,000	12.50	10,500,000
1911	612,000	1,224,000	10.00	12,240,000
1912	640,000	1,216,000	8.30	10,093,000
1913	660,000	1,188,000	9.60	11,405,000
1914	700,000	1,750,000	8.70	15,225,000
1915	775,000	1,550,000	15.00	11,625,000
1916	825,000	1,402,000	18.70	15,422,000
1917	759,000	1,063,000	26.04	19,772,000
1918	767,000	1,227,000	31.36	24,049,000
1919	752,000	827,000	25.30	19,021,000

Digitized by Google



Wheatland County Wheat Farm

Peas and Beans.

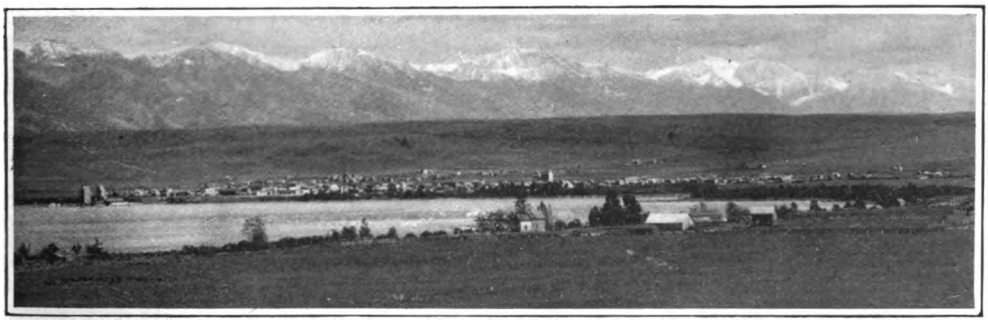
Growing of peas under contract for seed houses throughout the United States has become an important industry in some of the irrigated districts of Montana, notably in the Gallatin and Bitter Root valleys, and with canning factories in both of these districts, the acreage in peas is being steadily enlarged.

Around Billings the farmers have taken up the raising of white beans. Good money was made in it until the suspension of hostilities in the fall of 1918 left the country with a larger crop than peace time needs required, so the acreage was much reduced in 1919.

Sugar Beet Production.

Largely because of war conditions, the growing of sugar beets has not expanded in Montana. Labor has been scarce and cereals commanded such good prices farmers found they made more growing grain than beets and hence the acreage was cut down. There is a sugar beet factory in operation at Billings. A sugar beet factory was built at Missoula but farmers declined to contract sufficient acreage of beets and the plant has been dismantled and removed to Nebraska.

In 1919 14,350 acres of sugar beets were contracted for in the Billings territory and 2,777 acres in the Missoula territory. Because of the unprecedented drouth the total acreage was reduced to approximately 7,915. The production was about seven tons of beets to the acre and the price $11 a ton. The 1920 contracts have been made on a price of $20 a ton.



Polson—One of Flathead's Progressive Cities

Digitized by Google

Livestock Husbandry

Though Conditions Are Ideal, Industry Still in Its Infancy — Montana Outranked Many Other States in Livestock Wealth—37,000,000 Acres Grass Land.

RODUCTION of live stock has been for many years and will always continue to be one of the important industries of Montana, if for no other reason than that 37,000,000 acres of the state's area has been classified as adapted only to grazing. This area is exclusive of another 30,000,000 acres of forest and mountain land partially adapted to grazing, and also does not take into consideration the live stock that can be raised on the state's 30,000,000 acres of agricultural lands. But there are other reasons than that of mere acreage. Most of Montana has a limestone soil which makes for bone and breadth in animals raised upon such a soil; it has pure water, highly nutritious native grasses, an invigorating altitude, and winters that, while sometimes severe, do not make the inroads on an animal's vitality that are made in regions where the thermometer does not fall so low but where the humidity is greater.

First Texas Drive.

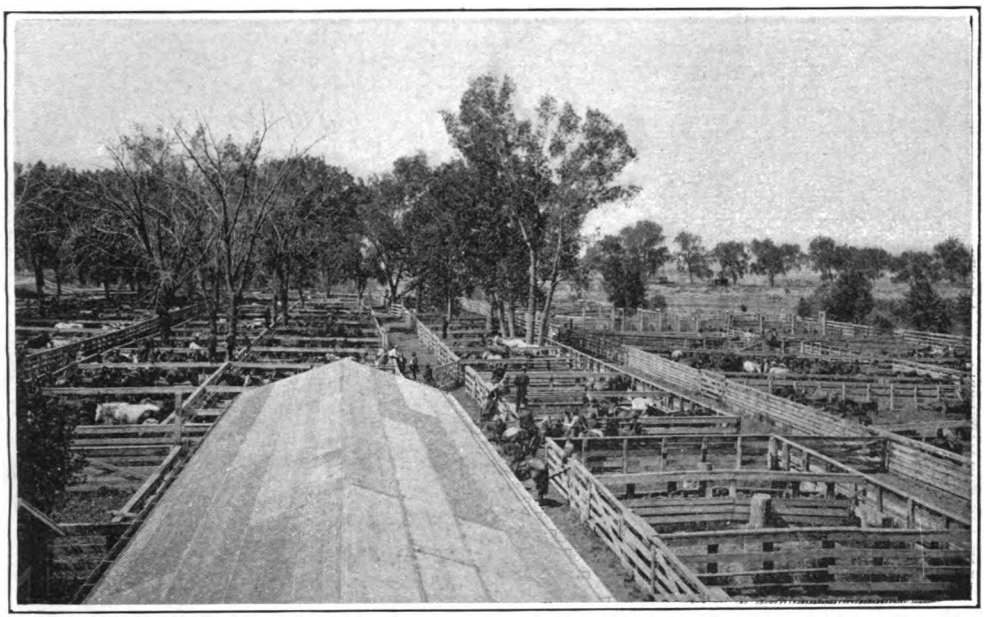
Montana's advantages for live stock growing were long ago recognized. A few years after the gold camps had been established, breeding of live stock was started. For many years mining and live stock were virtually the state's only industries. Montana was the northern termini of the old Texas trails, southern growers being quick to take advantage of the discovery that mature southern steers began growing again when turned out on the Montana ranges. The first Texas drive to Montana was made in 1869 and the last in the late eighties. The first herd of cattle was established in Montana Territory in 1853 by John Grant, and the first drive of cattle from the territory was made in 1868 by J. D. Hogan of Augusta to Salt Lake. The first shipment east by rail was made in 1874 by Conrad Kohrs, who drove the cattle overland from Montana to Ogden, Utah, and there loaded them aboard the cars.

The coming of the farmer, and the settlement of vast tracts of public lands, have revolutionized the business in Montana during the past ten years. The big cattlemen have virtually retired, and to a lesser extent, so have the sheepmen. The transition is not yet complete, and will not be until the holdings of the farmers have been stocked. Three years of dry weather have retarded the movement, but even aside from this, the movement is one that will take years to complete, so vast are the possibilities for the business in Montana, and to so slight an extent have they thus far been utilized. This can be better appreciated when it is realized that the statistics of the U. S. Department of Agriculture show Montana ranks twenty-seventh in the total value of cattle, hogs, sheep, horses and mules, being outranked by such states as Pennsylvania, Georgia, Virginia, Michigan and Arkansas.

With the passing of the old range herds and the establishment of the small farm herds, has likewise come a change in the methods of management. Winter feed and shelter are being increasingly provided, better live stock is being kept and better care provided. The demand is growing for pure bred stock of all kinds. Many herds are being established, but it will be many years before Montana will be in a position to provide for its own needs without importations from other states.

Live stock shows and auctions reflect the change and the tendency toward improved stock. All the fairs—state and county—feature pure bred live stock and many of them have auction sales in connection with the exhibits. Great Falls has just mpleted the erection of a pavilion costing upwards of $50,000 to be used expressly

Digitized by Google



Thousands of Horses Are Marketed Annually at the Miles City Horse Sales Yards

for conducting live stock auctions. A tri-county stock show for Roosevelt, Richland and Sheridan counties is held each year at Culbertson, and is one of the best and biggest, aside from those at the Helena and Billings fairs, held in the state.

Shipping Records Broken.

Because of the unprecedented drouth in 1919, live stock shipments from Montana broke all previous records. Stockmen, and to some extent sheepmen, reduced their holdings and marketed everything marketable. Friends of the industry consider this not an unmixed evil, for the best animals were retained, and as herds and bands expand they will be of higher grade than before.

Montana live stock contributed to the wealth of the state and nation in 1919:

	No. of Head	Value
*Beef cattle marketed	449,964	$28,919,186
†Sheep and lambs marketed	1,110,800	13,329,600
‡Hogs marketed	122,300	2,690,600
‖Beef consumed in state		5,985,000
§Wool clip		15,079,000
¶Butter, milk, cream, cheese		15,275,517
Total		$81,278,303

Value of Cattle in Montana.

The following table shows the number and value of beef cattle in Montana by years, including both the days of the open range and the recent years:

Digitized by Google

Year	No. of Head	Value
1902	1,048,559	$28,560,233
1903	1,059,045	20,563,797
1904	1,048,455	19,314,006
1905	964,579	17,352,775
1906	916,350	18,134,570
1907	879,000	17,580,000
1908	905,000	19,910,000
1909	842,000	23,071,000
1910	865,620	24,067,032
1911	813,000	22,439,000
1912	732,000	21,814,000
1913	717,000	27,533,000
1914	753,000	34,939,000
1915	791,000	38,759,000
1916	894,000	45,058,000
1917	1,000,000	53,100,000
1918	1,020,000	57,222,000
1919	1,170,000	68,913,000
1920	936,000	47,362,000

Beef Cattle Shipped to Market.

The number of beef cattle shipped to eastern markets from Montana is shown in the following table:

Year	No. of Head	Year	No. of Head
1885	70,089	1902	230,000
1886	119,620	1903	210,573
1887	82,134	1904	288,775
1888	167,602	1905	267,966
1889	123,880	1906	276,722
1890	174,035	1907	214,642
1891	250,000	1908	241,320
1892	203,000	1909	255,178
1893	279,158	1910	243,662
1894	302,655	1911	205,873
1895	206,460	1912	188,675
1896	254,864	1913	180,000
1897	252,162	1914	158,623
1898	232,225	1915	173,936
1899	203,499	1916	264,382
1900	160,055	1917	334,000
1901	151,986	1918	406,415
		1919	449,964

*The price of beef cattle was estimated at $64.27 a head which was the average price received by the state livestock commission on 9,574 animals, including steers, cows and calves, the returns on which were made to it.

†The price of sheep and lambs was estimated at $12 a head. Figures of the railroad commission show there were 8,332 carloads of sheep and lambs loaded in Montana in 1919, of which it is estimated two-thirds were marketed. An estimate of 200 head to the carload was made.

‡The price of hogs was estimated at $22 a head. Statistics of the railroad commission show carriers handled 1,233 carloads of Montana hogs in 1919. An allowance of one-third more was made for hogs marketed locally. An allowance of 75 hogs to the carload was made in estimating the total number of hogs marketed at 122,300.

||The per capita consumption of meat in the United States in 1919 was 141.98 pounds, according to the United States Department of Agriculture. In estimating the amount of beef consumed in Montana, the population was estimated at 700,000, and the consumption of beef at 95 pounds per capita, and the average price 9 cents a pound. The figures in the table on the beef marketed refer only to beef marketed in the east.

§The figures on the wool clip of Montana for 1919 were obtained from the National Association of Wool Manufacturers, the recognized authority on this subject.

¶Figures on the butter production and the retail milk and cream were obtained from the state dairy commissioner.

Decline in Horse Raising.

Reflecting a movement that has been country-wide, Montana is raising fewer horses than formerly, but these few are of much higher grade than the range horses of a few years ago. A consistent effort has been made in the past year or two to

Digitized by Google

Steer Feeding an Important Industry in Ravalli County

rid the ranges of light weight stuff and this accounts chiefly for the decline in the number of head. Miles City is the largest horse market in the state, and several years ago was the largest primary horse market in the world. Sales were held at regular intervals throughout the year and buyers from all parts of the country attended. Dillon, in southern Montana, is the only other place in the state that has featured horse auctions.

Horses on Farms.

Year	On Farm and Range	Value
1902	246,570	$ 7,251,264
1903	244,104	8,988,890
1904	236,781	9,083,698
1905	239,149	10,352,765
1906	291,970	18,379,534
1907	292,000	21,316,000
1908	304,000	19,760,000
1909	319,000	25,520,000
1910	315,956	27,115,764
1911	344,000	29,928,000
1912	347,000	30,189,000
1913	354,000	32,922,000
1914	372,000	37,944,000
1915	391,000	33,626,000
1916	430,000	36,980,000
1917	460,000	42,320,000
1918	506,000	49,588,000
1919	575,000	48,300,000
1920	518,000	31,180,000

Sheep Raising Important.

Changing conditions and partly dry weather account for the decline in the number of head of sheep in Montana. While the total number has declined the quality has improved. The tendency among the big sheepmen for a number of years has been away from the old policy of raising sheep for the wool alone, and an increasing

Digitized by Google

Carter County Ideal for Horse Breeding

number of flockmasters are crossing the wool type on the mutton breeds, so as to convert their lambs into meat. Winter fattening of lambs is becoming an important industry in the state, notably around Billings where sugar beet pulp is available, and where the irrigated lands furnish an abundance of alfalfa and small grains.

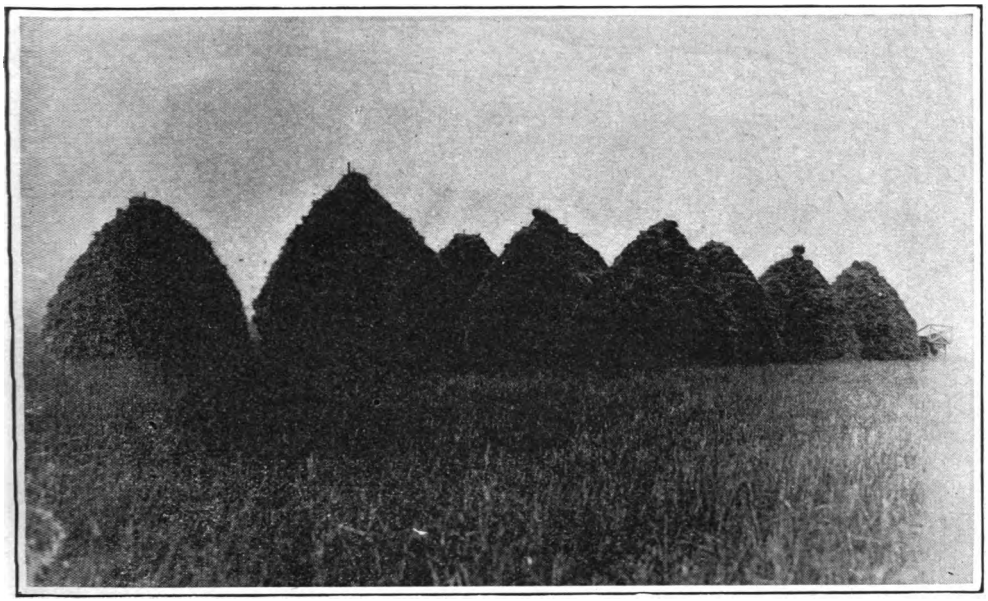
The following table gives statistics on the sheep growing industry in Montana:

Year	No. of Sheep of Shearing Age	Aver. Weight of Fleece	Shrinkage Per Cent	Wool, Washed and Unwashed	Wool Scoured
1900	3,717,160	7.00	63	26,020,120	9,627,444
1901	4,526,517	6.75	63	30,553,990	11,304,976
1902	5,081,000	7.00	63	35,567,000	13,159,790
1903	5,100,000	6.00	63	30,600,000	11,322,000
1904	5,576,000	6.75	64	37,773,000	13,598,280
1905	5,200,000	7.25	66	37,700,000	12,818,000
1906	4,940,000	7.25	65	35,815,000	12,535,000
1907	4,600,000	6.70	63	30,820,000	11,403,400
1908	4,600,000	7.00	64	32,200,000	11,592,000
1909	5,000,000	7.00	63	35,000,000	13,300,000
1910	4,800,000	7.00	64	33,600,000	12,096,000
1911	4,650,000	7.50	64	34,875,000	12,903,750
1912	4,300,000	7.25	62	31,175,000	11,846,500
1913	4,200,000	7.50	63	31,500,000	11,655,000
1914	3,869,000	7.80	63	31,177,000	11,165,490
1915	3,725,000	7.7	62	28,682,000	10,899,160
1916	3,150,000	7.8	62	24,570,000	9,346,600
1917	3,071,000	7.6	62	23,342,000	8,869,000
1918	2,847,000	8.2	64	23,342,000	8,403,120
1919	2,790,000	8.2	63	22,878,000	8,465,042

Hogs Thrive in Montana.

While the number of hogs in Montana declined in 1919, it was not because the industry was not profitable, but because of a shortage of feed due to the drouth. Hog raising in this state is just beginning. Irrigated alfalfa pastures, supplemented by a little grain, make thrifty, fast growing hogs, that can be fattened on peas or barley. Barley and skim milk are conceded to make the finest flavored pork. This is the combination used in Denmark, whose hams and bacons are reputed to be the

Digitized by Google



One of Custer County's Money Crops

finest in the world. In eastern Montana, where more and more attention is being given corn growing, the swine industry is bound to grow, the crop being harvested by the hogs. Feeders in the corn belt who have made investigations, assert that the irrigated districts of the west can raise pigs to a feeder age far more quickly than can the corn belt. Many of them buy feeder pigs by the carload in the west, shipping them east to be finished for market there.

Swine in State.

The following table shows the number of head and value of swine of Montana farms for a period of years:

Year	No. of Head on Farms	Value
1902	51,745	$ 560,916
1903	54,850	496,941
1904	57,592	467,071
1905	59,896	512,111
1906	62,891	578,597
1907	66,000	660,000
1908	68,000	680,000
1909	75,000	758,000
1910	99,261	858,000
1911	124,000	1,290,000
1912	143,000	1,416,000
1913	153,000	1,812,000
1914	184,000	2,190,000
1915	276,000	2,981,000
1916	298,000	2,682,000
1917	269,000	3,228,000
1918	215,000	4,408,000
1919	200,000	4,400,000
1920	160,000	3,200,000

Few Mules in Montana.

Montana farmers have never become interested to any extent in raising mules, although within the past two years a considerable number of farmers have disposed of stallions and replaced them with jacks. The results of this policy will not be observed for several years. Montana is estimated to have 5,000 head of mules, valued at $400,000.

Digitized by Google

Dairying in Montana

State's Dairy Products in 1919 Totaled Over $15,000,000. Everything Favors Development of the Industry Here—Over 51 Creameries Busy.

HOUGH it is only within the past few years that serious attention has been given the possibilities for dairying in Montana, the total value of dairy products in the state in 1919 was $15,275,517, according to figures compiled by the state dairy commissioner. This total was derived from the following sources:

Retail milk and cream	$11,000,000
Creamery butter, 5,584,311 pounds at 50c	2,792,150
Dairy and ranch butter, 1,500,000 pounds at 35c	525,000
Cheese, 404,083 pounds at 35c	141,429
Ice cream, 742,671 gallons at $1.10	816,938
Total	$15,275,517

Creameries in State.

There were 51 creameries in operation in the state in 1919, seven cheese factories, and one condensery, the latter at Bozeman. Creameries are located in about three-fourths of the counties, but most of those counties not having creameries are within easy shipping distance of such plants. The U. S. Department of Agriculture estimates there are 180,000 milch cows in Montana.

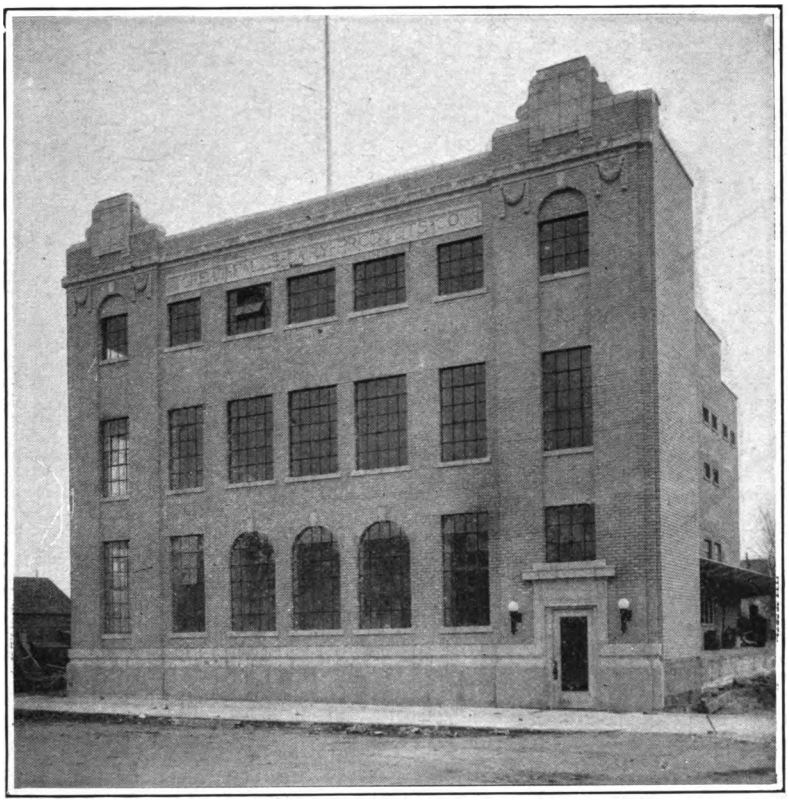
While dairying has been longer established and has made greater strides in western and central Montana than in the eastern portion, the last year or two has witnessed a change in the non-irrigated farming areas of the state. Farmers have begun to realize that in years of sub-normal rainfall a small herd of milch cows is the best kind of drouth insurance, the weekly or monthly cream checks furnishing a living for the family. Forage for live stock on the non-irrigated farms has been a problem in dry years, but the remarkable success had with Russian sunflowers, yielding from eight to ten tons of forage in dry years and upwards of 20 to 30 tons in wet years, has solved this difficulty. The Montana Agricultural College has determined that sunflower silage has practically the same feeding value as corn silage. Many silos have been built in the state in the past two years, and there is every reason to believe that it will not be many years before they will be regarded as essential as is a plow. The pit silo is the most inexpensive form and they have given good results wherever tried.

Two Types of Dairying.

Dairying is further advanced in the irrigated districts, and substantial improvement is being made in the class of stock. The non-irrigated farmer is more likely to keep a dual purpose animal, the steer calves being turned out on the ranges to mature as beef, but in the irrigated districts farmers incline more to the straight dairy type. Campaigns are being waged in parts of Montana to induce men on irrigated farms to maintain irrigated pastures, in the past most farmers considering irrigated land too good to be used for pasture. Experts contend, however, that the carrying capacity of an irrigated pasture is so much greater than the capacity of the ordinary pasture, that under the proper care the irrigated pasture will return as large if not larger returns than would the same ground in crop.

That part of Montana west of the main range is especially adapted to dairying. The grass is more lush than east of the range, and clovers do especially well on the logged-off lands. Dairy cows in these districts will furnish a living income while the farm is being cleared. Stevensville, in the irrigated district of the Bitter Root valley,

Digitized by Google



Modern Dairy at Great Falls

boasts one of the largest and most successful co-operative creameries in the northwest. Many of the farmers who formerly specialized on horticulture grubbed out their orchards and have gone into dairying.

No Surplus Produced.

Montana's production of butter at the present time is just sufficient to take care of its own needs. Creamerymen have never had any trouble to find an outside market for the surplus product manufactured during the summer, and anticipate there will be no trouble to market the year-round surplus when the industry reaches that stage.

Good Climate for Dairying.

A more favorable climate for dairying could hardly be found than that of Montana. The cool nights make the keeping and handling of dairy products possible and afford fine conditions for pasturage. The long days for grazing in summer are almost ideal. The industry is a paying one in the winter if adequate shelter is provided and winter feeding is properly carried on. In the more favored sections in the southern and western districts the winter weather does not affect the dairyman to any extent. The higher price of the products in the winter months compensates for the increased cost of production at that time.

Montana has long been noted as a hay producing state. Vast quantities of clover, alfalfa and other grasses are grown. The state dairy commission is encouraging the growing of the legumes, including cow peas, soy beans and vetches in increased amount. With water for irrigation, pastures—one of the most essential items for the successful dairyman—are kept in good condition through the summer months and late in the fall. Alfalfa is now being raised in practically all sections of the state

Digitized by Google

This Field of Winter Wheat, Grown in Pondera County Near Conrad by James F. Sanders.

and dairymen have found that this is a most valuable roughage feed. The number of flour and grist mills is rapidly increasing and the by-product of these, together with the by-products of the sugar factories, such as are used for the dairy cow, are much easier to obtain than formerly.

High Grade Herds Developed.

The need for more and better dairy cows in Montana has been recognized during the past few years and several thousands of good cows have been shipped into the state. These cows either come from tested herds or are tested here and placed on the accredited lists. Banks and business men are aiding the farmers to obtain the larger and better herds, with the result that there are now in Montana many herds of dairy cattle which will compare favorably with those in the best dairying centers of the country. Efforts are now being made to establish more herds of pedigreed, registered cattle in the state.

Dairies Are Inspected.

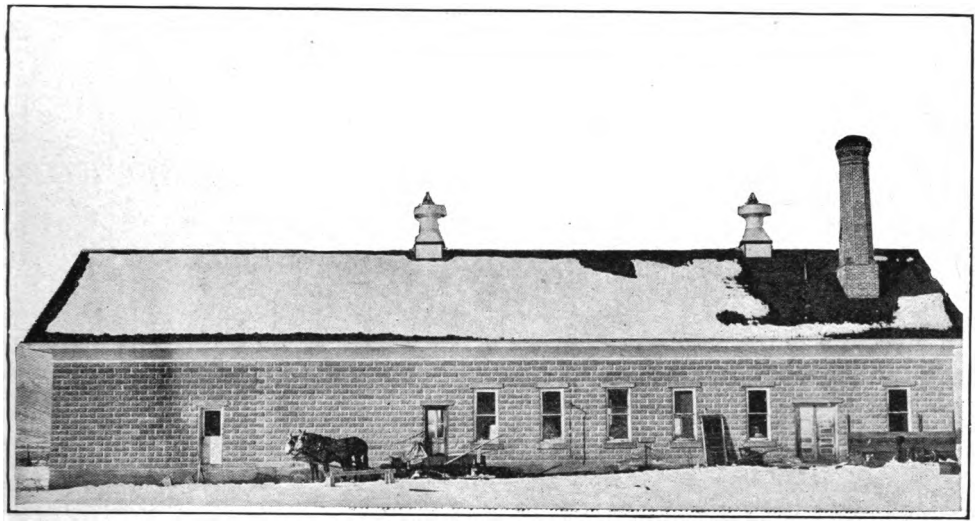
A State Dairy Commission has charge of the supervision of the industry in Montana. The dairy commissioner and his deputies inspect the dairies and creameries closely, and make all conform to the requirements of the law.

By the law the farmer is protected in marketing his products and the consumer is assured of getting a clean supply of milk, cream, butter and cheese. The small creamery is protected under the law, which prohibits unfair competition and discrimination in buying and selling, by which larger concerns are prohibited from putting the smaller houses out of business.

The commission is also carrying on an instructive educational campaign. It is pointed out to each farmer that he should keep at least six or eight cows, on which to depend for a steady income. This would practically guarantee him a living at times of crop failure or misfortune, and a source of wealth at other times.

Encouragement is given to the younger members of the families and an effort made to arouse their interest by the establishment of boys' and girls' calf clubs in each community. The idea is for the parent to give each child a calf to own and care for.

Digitized by Google

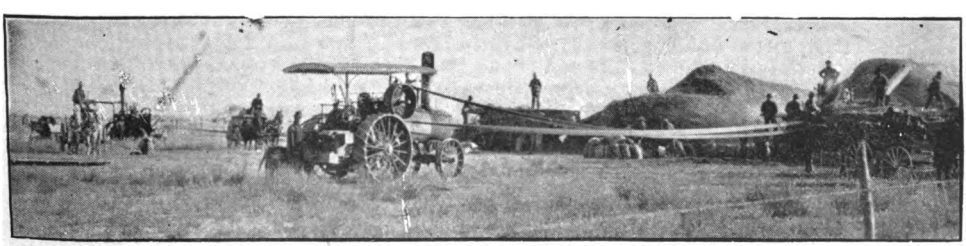


Stevensville Co-Operative Creamery Where Eggs and Dairy Products Are Handled

Dairy Cows in Montana.

This table, showing the number and value of milch cows in Montana January 1 of the years 1902-1920, inclusive, is an index of the dairy industry in the state:

Year	No. of Head	Value
1902	52,380	$ 2,101,486
1903	53,951	1,953,026
1904	55,030	1,809,455
1905	61,634	2,098,638
1906	65,948	2,308,180
1907	69,000	2,484,000
1908	75,000	3,300,000
1909	80,000	3,720,000
1910	77,527	3,407,090
1911	85,000	4,122,000
1912	91,000	4,495,000
1913	95,000	5,795,000
1914	104,000	7,332,000
1915	114,000	8,550,000
1916	129,000	9,998,000
1917	160,000	12,640,000
1918	179,000	14,946,000
1919	197,000	17,139,000
1920	180,000	14,940,000



Threshing a Montana Wheat Crop

Digitized by Google

Poultry and Bees

Advent of the Small Farmer Responsible for Increased Production in State — Montana Birds Are Prize Winners at Big Eastern Shows.

ITH the increase of the agricultural population of the state, the breaking up of the range and the disappearance of the large stock companies, has come a gradual change in the system of farming. From the large, highly specialized stock ranches, grain ranches or sheep ranches, the trend of agriculture is gradually swinging to the diversified farm, where the rancher, instead of concentrating all his energies and staking his all on the big gamble that conditions are going to break his way and he will make a big killing at harvest time, or when his stock is on the market, or his clip sold, is dividing his energies and carrying on along with his grain farm a few beef cattle or fine dairy cows, a small band of sheep, pigs, and poultry. As a result of this change, there has been a marked increase in the valuation of poultry and poultry products of the state.

Industry Is Organized.

While it is impossible at this time to estimate accurately the rate of growth and size of the poultry industry, it is safe to assume that the census report will show a marked increase in the number of poultry, turkeys, ducks and geese kept, and it would not be at all surprising if the industry had more than doubled in the last ten years. With this growth has come a corresponding development in the organization of the industry as manifested through the activities of the State Poultry Breeders' Association; the growth of the Poultry Department at the State Fair; and the annual State Poultry Show; also the development of the Poultry Department at the Sate College at Bozeman.

In this connection it is interesting to note the growth of the annual State Poultry Show which is held each winter. Ten years ago this was a very small affair, the entries running between two and three hundred birds of varying quality, cooped in rather poor pens. The last show which was held at Great Falls, while not the largest ever held, ran over a thousand entries and the quality of the birds was exceptionally fine. The birds were all cooped in uniform wire coops, making a very attractive display.

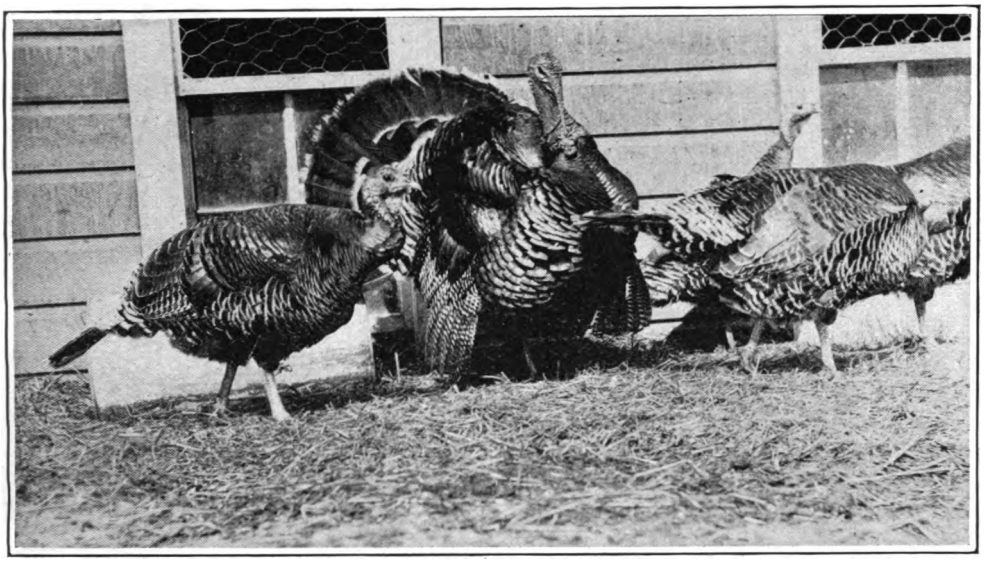
High Quality of Birds.

Not alone is the state show becoming a leading factor in the development of the poultry industry of the state, but it is attracting the attention of breeders in nearby states and is rapidly becoming one of the leading poultry shows of the northwest. That the birds produced in this state are of high quality is shown by the number of winnings by Montana birds at the Chicago Coliseum in recent years, especially in the Brown Leghorn and Orpington classes, and by Cornish Indian Games at the Madison Square Garden. That the quality of the birds is not confined to show stock has been demonstrated for a number of years by the records of the White Orpingtons at the All Northwest Egg Laying Contest held at Pullman, Washington. These birds, raised by a Gallatin county breeder, have made exceptionally high records each year of the contest and during the winter months have several times led all other birds in the contest.

From all indications at the present time it would seem that the poultry industry of the state is bound to make rapid strides within the next few years.

The winters, while severe in some sections of the state, are not prohibitive and poultry can be made to pay handsomely when properly housed and managed even under these conditions. The western part of the state, including the Bitter Root valley, the Flathead and the country west, is ideal for poultry raising. The winters

Digitized by Google



Turkey Family at the Montana Experiment Station, Bozeman

as a general thing are mild, the summers ideal, shade trees are easily grown and with the abundant grain crops produced in this section, making feed easily available, renders it especially favorable for the poultryman.

What is said of this section applies equally well to many other sections; in fact, when the possibilities of poultry are considered in connection with other branches of farming, especially grain growing, it can be fairly said that Montana offers excellent opportunities for poultry raising.

What has been said in regard to poultry is equally true of turkeys. Conditions found here are hard to duplicate in any other section. The climate is ideal, feed is abundant and where range can be had they can be herded about and will pick up practically all their feed, requiring only a little grain at night.

The Chief Markets.

The market conditions, while not all that could be desired, are rapidly improving. The main difficulty arises from lack of proper facilities for getting the products into the market. Certain centers like Anaconda, Butte and Great Falls, import large quantities of poultry products and in these cities there is always a big chance for high class poultry products if put on the market in excellent condition.

One of the factors that is rapidly taking an important part in the marketing of poultry is the creamery. A number of these organizations are handling eggs along with the cream and butter. Perhaps the best example of this co-operation in handling poultry products is found in the Stevensville Co-Operative Creamery in the Bitter Root valley, where a large number of eggs are handled each year.

Legislation in Montana is favorable to the poultry industry. In 1911 it established the State Board of Poultry Husbandry for the purpose of promoting the industry through the publication of reports dealing with various poultry topics, by assisting with the annual state show and such other means as may be deemed advisable.

The latest available statistical data taken from the 1910 census gives the number of fowls in Montana at 966,690, with a valuation of $628,436.00. The eggs produced that year numbered 6,004,051, valued at $1,610,766. The valuation of market poultry was $797,450.00. It has been impossible to obtain accurate data for the present year and any estimates as to the present valuation would have to be based on conditions as they are found throughout the state and on interest shown by the people for information concerning poultry. Using these factors as a basis, it is safe to say that the number of fowls kept and the value of poultry and poultry products has more than doubled since 1910.

Digitized by Google

He Is Going to Be a Ranchman

Bee Keeping in Montana.

In the last few years more attention has been given bee-keeping in Montana and in a few districts the industry has grown rapidly. More progress has been made in this work in Stillwater, Yellowstone and Big Horn counties, in the Yellowstone valley and in the Bitter Root and Flathead valleys in western Montana, than in any other parts of the state.

Clover and alfalfa in eastern Montana and clover, alfalfa and fruit blossems in western Montana are the chief honey crops.

The honey production of Montana in 1919 was estimated at 150,000 pounds.

Digitized by Google

Horticulture in Montana

Commercial Apple Crop of the State Supplies Only Half the Annual Consumption—Berry Growing a Real Opportunity for Persons of Small Means.

AN experience of 50 years growing fruit commercially in Montana has demonstrated the possibilities of horticulture, principally in the western portion of the state. Marketing problems, however, have handicapped the industry and it might be said that only within the past few years has it been placed on a sound footing, and it will be a number of years before Montana growers are in a position to furnish the home markets with all the products they require. Apples are the chief crop, then sour cherries, and to a lesser extent, sweet cherries and pears. In some districts peaches, beautifully colored and deliciously flavored, are grown, but not on a commercial scale at present.

Perhaps the biggest opportunity for the man of small means in a horticultural way is the growing of berries. Montana strawberries come on the market after the Washington and Oregon season for berries has passed; there is virtually no competition from other districts, and no finer product is grown anywhere than in the mountain valleys of Montana. There is also an unlimited demand for currants, gooseberries and raspberries. Watermelons thrive in the eastern part of the state, and Montana commission houses are authority for the statement that the Montana melons are finer flavored and better eating than any other melons they have handled. However, the Montana melons are the last to come on the market, and the public, satiated with the shipped-in product, has not yet learned to appreciate the later home product. Advertising and publicity may overcome this handicap.

The Yearbook of the U. S. Department of Agriculture gives the following statistics on Montana fruit:

Year	Total Crop	Commercial Crop	Price Per Bushel
1918 (Apples)	192,000	75,000	$2.10
1919 (Apples)	1,289,000	124,000	1.75
1918 (Pears)	6,000	.....	2.00
1919 (Pears)	11,000	.....	3.00

The Montana State Board of Horticulture estimates the commercial crop of sour cherries at about 10 carloads; the sweet cherry crop was practically a failure owing to severe winter freezing. "The outlook," says the board, "for the coming season (1920) is very bright and orchardists are showing keen interest and making extensive plans to increase their production."

Militating Facts.

Some of the factors that have militated against the fruit-growing industry in the state in the past have been the failure of growers to fix upon one or two definite varieties in a district; planting orchards on ground not adapted to orcharding; improper care of orchards; lack of cooperative marketing and grading, and lastly, a tremendous orchard boom ten years ago. Practically all of these factors have been overcome now and the next few years should witness a healthy growth of the industry.

The Montana State Board of Horticulture, through a corps of field inspectors, has been of invaluable aid to fruit growers. It advises and confers with growers as to the proper varieties and care of orchards, and is authorized by law to spray and clean up

Digitized by Google

diseased orchards in those few and isolated cases where owners, careless of their own interests, jeopardize the interests of others. The board also maintains an inspection organization throughout the state, and inspects not only the fruit and nursery stock which is grown here, but also that which comes in from outside. Fruit and nursery stock found infested with dangerous insects or diseases is either destroyed or returned to the shipper. A quarantine has been established forbidding the shipment into the state of all five-leaved pines, currant and gooseberry bushes from states infested with the white pine blister rust, thus affording protection to the great white pine forests within our boundaries. Other quarantines established forbid the introduction of barberry plants on account of their connection with the spread and dissemination of wheat rust, and the shipment of products from the alfalfa weevil infested section to the south of us in the states of Utah, Idaho, Wyoming and Colorado. The inspection service force is charged with the enforcement of all quarantine regulations.

Famous Fruit Sections.

The Bitter Root Valley, including Missoula and vicinity, stands foremost in orchard development. This valley, lying in the southwestern part of the State, has a mean altitude of 3,300 feet, is about one hundred miles long, from one to twenty miles wide, and is traversed its entire length by the Bitter Root River, which empties into the Missoula River near Missoula, and represents as many orchards acres as do the other fruit-raising sections combined. The orchards in this valley range from the home orchard of about a hundred trees to the commercial orchards up to two thousand acres. The first commercial orchard in the valley was planted near Stevensville by the Bass brothers in 1870. The first planting in the State of the McIntosh Red, "The Apple That Made Montana Famous," was made in 1877 near the same town by Amos Buck.

Next to the Bitter Root Valley in horticultural importance comes that part of Flathead county lying tributary to Flathead Lake. Following these sections we find Carbon county; Sanders county, from Plains to Trout Creek, and Lincoln county. In Jefferson and Yellowstone counties some valuable orchards are to be found, and in fact in every valley in the state that is sufficiently developed bearing orchards are to be found.

Many Kinds of Fruits Raised.

The apple is the principal commercial fruit grown, and Montana McIntosh, Wealthies and Gravenstines have established a reputation of their own whenever they have entered the markets. Many other varieties develop a high quality.

Cherries rank next to the apple in importance. Carloads of cherries are shipped annually from the Bitter Root, Missoula and Flathead Valleys. Pears grow in the western counties and although they do not produce large amounts, the fruit is of a high quality. Plums and prunes are also a source of revenue to growers who give them the proper attention. Peaches and grapes are raised in certain sections, especially in Sanders county.

The nurseries in Montana are represented by extensive plants in Hamilton, Missoula, Kalispell, Billings, Helena, Big Timber and several other places. These nurseries supply their localities with fruit trees acclimated to their respective districts.

Annual Consumption of Apples.

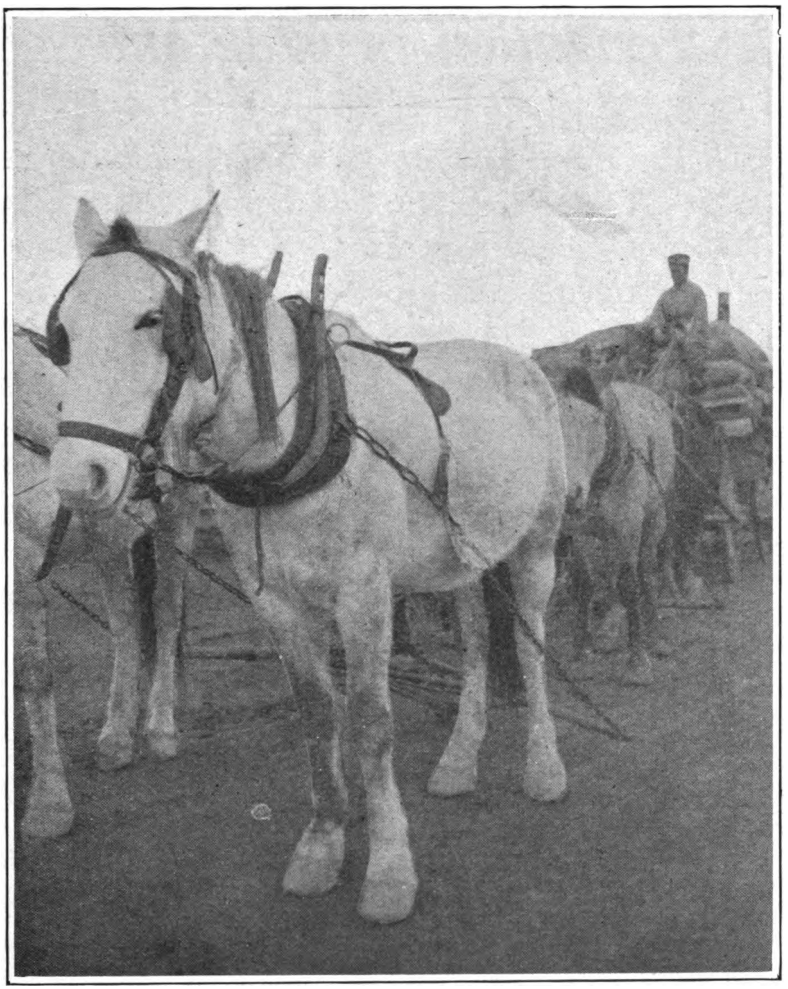
The consumption of apples in Montana approximates 1000 cars each year. The fact that apples are shipped into the state shows that the local fruit growers could market many more apples than are now raised. The normal production is about 500 cars, which is all marketed locally.

The fruit growers in all the different sections are beginning to learn the value of co-operation in marketing and within the near future a large amount of the fruit will be packed in community packing houses. This plan will produce uniformity in the product and will do more than any one thing to give Montana fruit a reputation for excellence not only on the home market but elsewhere.

Marketing Organizations.

In the Bitter Root Valley two marketing organizations have been operating, the Montana branch of the North Pacific Fruit Distributors and the Farmers' Co-operative Equity Association. Growers are more than ever impressed with the idea that the fruit grower who possesses an orchard of good varieties, in a suitable location, can make just as much profit as men in other lines of farming. The time has come when the fruit business in the northwest can be considered one that is entirely legitimate.

Digitized by Google



Taking the Wheat to Market From a Garfield County Farm

The day of orchard promotion schemes is past and these men who are continuing in the work are those who have learned the business and who can see the possibilities it offers.

Treatment of Diseases.

The orchards of Montana are not seriously troubled with pests and diseases. Several years ago the "fire blight" of apples and pears became very serious, but with the elimination of the susceptible varieties, such as the Alexander and Transcendent crab, the disease seems to have lost headway until now it is practically doing no damage. Apple scab is prevalent in the orchards of the western part of the state but it is readily controlled by thorough syraying with lime-sulphur solution. The pear leaf blister mite is prevalent in uncared for orchards, as is also the oyster,-shell scale. However, in regularly sprayed orchards the damage done by these insects is negligible. At Missoula is located the Missoula Lime & Sulphur Company, where most of the spray material used in western Montana is made. The codling moth has appeared in a few places, but has not yet reached the large acreage of orchards in the Bitter Root Valley. Clean fruit can be grown in Montana, but only by following a definite and thorough spraying program.

Digitized by Google

Irrigation in Montana

When All the Land in the State Susceptable of Irrigation Is Reclaimed, Population as Large as Commonwealth Now Has Will Be Required — Many New Projects.

AFTER being discriminated against for a long period of years, irrigated lands in Montana are now attracting more attention than ever before and there is every reason to believe that this interest will not soon subside. For many years farmers on non-irrigated lands in Montana obtained good crops, and in some districts, when the opportunity was presented to have their lands irrigated, the farmers refused it and petitioned out of the irrigated districts. Then came three dry years. Now practically every farmer whose land can be irrigated is anxious to have it included in a reclamation project, regarding the cost as drouth insurance that will absolutely eliminate the lean years.

In response to the changed sentiment, the legislature, at a special session in 1919, enacted a law modeled after the Oregon statute providing for the creation of irrigation districts. Briefly, the land owners petition the district court for the creation of a district; the engineers of the Montana Irrigation Commission make a preliminary investigation after the land owners have deposited the estimated amount of the cost of such an investigation, and if the report is favorable, the state commission recommends to the district court the creation of the district. After the district is created, a board of commissioners is chosen by the land owners, which has supervision over the project subject to the approval of the state commission. The lands within the district are bonded to defray the cost of the reclamation work, the bonds mature serially, and interest and principal on the bonds are collected in the form of a tax against the land.

No Large Tracts Available.

There is no likelihood of the federal government initiating any more reclamation projects in Montana, and because of the many homestead filings made in the past few years, there is left no one body of land in the state large enough to attract capital under the terms of the Carey act, so it is probable that whatever projects of any size are launched in Montana will be under the terms of the new law.

It is estimated by the Montana Irrigation Commission that this year not less than ten districts will be created by land owners for the reclamation of approximately 200,000 acres.

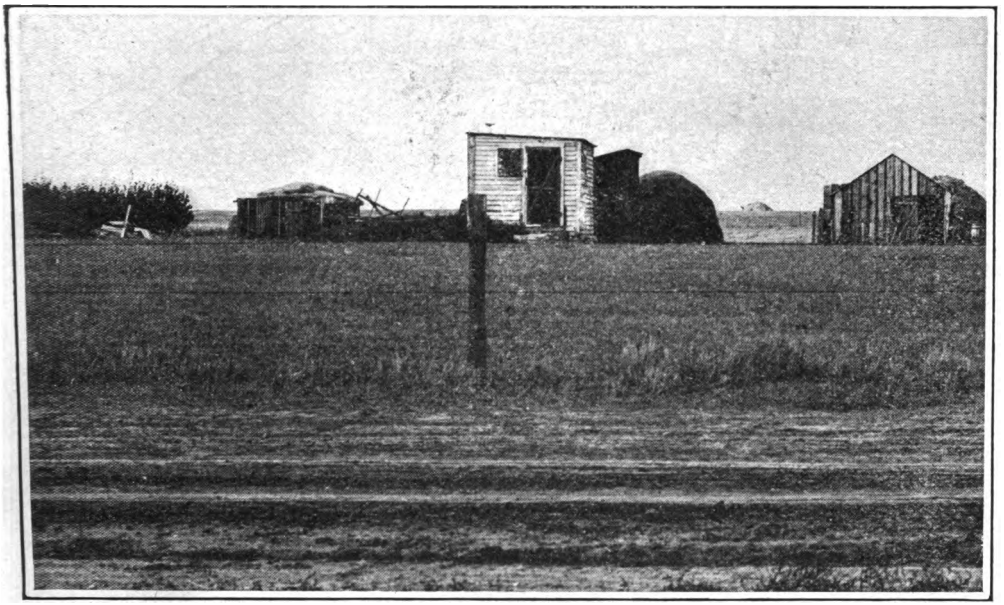
Commenting upon the operation of the Oregon law, after which the Montana statute is patterned, the state engineer of Oregon says: "We believe that these statutes are equal, if not superior, to similar statutes of any other state. Their operation has been particularly satisfactory, and has enabled us to finance our irrigation projects readily. During the past two years we have disposed of over $5,000,000 of irrigation district bonds and have $8,000,000 more voted, most of which will find a ready market.

"Over fifty districts have been organized in this state, but only sixteen have so far reached the stage of voting bonds, the remainder being newly organized. We are endeavoring to hold irrigation on a sound basis and believe we are succeeding fairly well."

Much Can Be Reclaimed.

Experts estimate that 7,000,000 acres of land in Montana are susceptible of irrigation. Works for the reclamation of less than half of this acreage have either been built or are under construction. Most of the land actually reclaimed has been by either individual, partnership or cooperative enterprises, and aside from the Carey and federal reclamation projects now under construction, it appears that most of the land

Digitized by Google



Typical Valley County Farm Home

reclaimed in the future will be under the cooperative district enterprises. According to Bulletin No. 103 of the Montana Agricultural Experiment station, an irrigated area in Montana of 7,000,000 acres will require a population depending upon it and its trade and allied industries of from 500,000 to 700,000; in other words, a population nearly as large as the present total population of the state.

Operation of an irrigated farm is more costly than operation of a non-irrigated farm, but the average returns from the irrigated farm are virtually double those from the non-irrigated farm. In the dry season of 1919 returns per acre from irrigated land in Montana were five times as large as returns from non-irrigated land, according to reports from the federal reclamation projects. In size the irrigated farm is usually smaller than the non-irrigated one because a more intensive system of farming is followed. It is safe to say that at present an acre of irrigated land is worth not less than $50 an acre more than an acre of non-irrigated land.

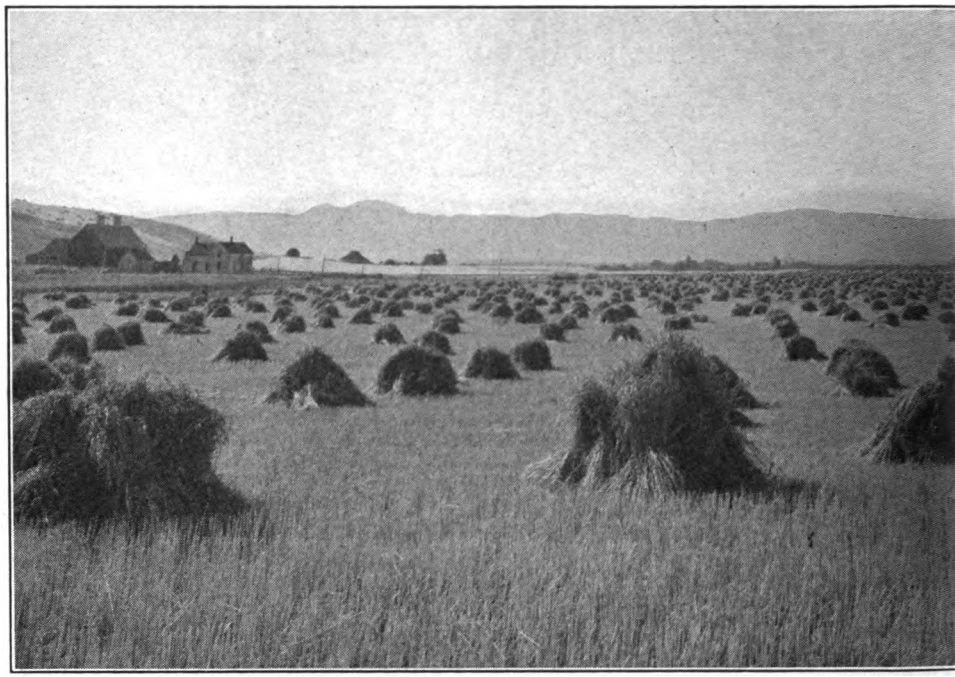
Water Requirements of Crops.

It is ordinarily estimated that two acre-feet of water will be required for the maximum growth of crops on irrigated lands. In wet seasons perhaps not more than an acre-foot will be required and in real dry seasons three or four acre-feet. An acre-foot is that amount of water which, if placed on the land at one time, would cover an acre with water to a depth of 12 inches.

Montana is an unusually well watered state, and irrigation projects either have been, or can be constructed, in virtually all parts of it. Some regions in western Montana have sufficient rainfall so that it would scarcely pay to construct irrigation works. Experts say that the total mean annual flow of water from Montana streams would supply, if fully used, an area of 10,000,000 to 12,000,000 acres at the rate of three acre-feet per acre.

Practically all lands that are susceptible of irrigation in Montana, easily, inexpensively, and without the construction of storage works, have been reclaimed. Reclamation in the future will consist of the enlargement of existing projects to reclaim lands lying at the higher levels, the building of storage dams to conserve the flood run-offs, and the irrigation of lands by pumping projects.

Digitized by Google



Ready for the Thresher

Irrigate by Pumping.

The largest pumping project in the state is in the Prickly Pear Valley, adjacent to Helena, where the Montana Reservoir & Irrigation Company uses 3,680 horsepower to pump water into three sets of ditches supplying 9,500 acres. The company charges $1.75 an acre-foot for the water. In Chouteau county a number of small cooperative pumping projects were started in 1919. The land owners purchase electric power, install their own pumps and build their own ditches. A number of other pumping projects using electrical power are contemplated.

Federal and State Projects.

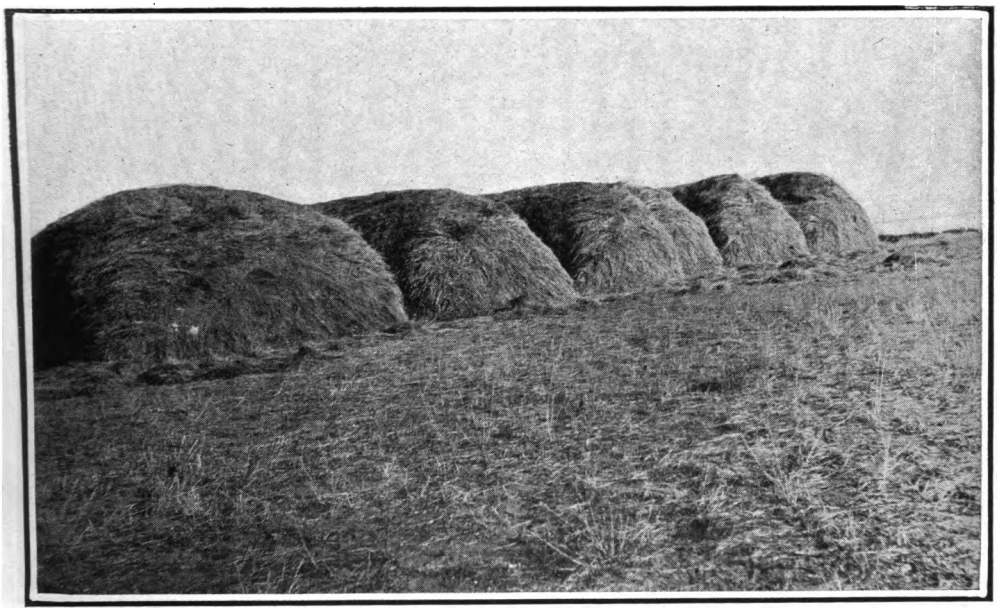
Next in importance to the homestead laws, the development of Montana land was the Federal Reclamation Act of 1902. The programs instituted by this act and the Carey Land Act in Montana call for the irrigation of a total of 1,006,034 acres. Much of the work has already been accomplished and the rest is in different stages of preparation. Thirteen projects have been built or are under construction under these two acts. Seven of these projects are in charge of the Federal Government, three of which are being built in co-operation with the United States Indian Service. Six projects are under the jurisdiction of the Carey Land Act Board, with a total of 162,285 acres of irrigable land.

Milk River Project.

The Milk River Project is the largest in Montana, contemplating the reclamation of 219,557 acres of land in the Milk River Valley, located in Blaine, Phillips and Valley counties, between the towns of Chinook and Nashua. The lands are to be irrigated by a succession of dams located near Chinook, Dodson and Vandalia, respectively, diverting water from the Milk river into canals located along the foothills on either side of the valley.

The natural flow of the Milk river is supplemented by water stored on St. Mary's river on the edge of Glacier Park and diverted from that river into the Milk river. Storage is also provided at Nelson reservoir, located in a natural basin between Malta and Saco. This reservoir is fed through the Dodson South Canal, 44 miles long, heading at Dodson Dam, and serves lands in the vicinity of Saco and Hinsdale, and also augments the natural flow of the river at Vandalia Dam.

Digitized by Google



Blue Grass Grown on Chas. Tanner Ranch Near Hinsdale, Valley County

The Great Northern railway traverses the entire irrigable area for a distance of 160 miles, with stations at intervals of about six miles, the principal towns being Chinook, Harlem, Dodson, Malta, Saco, Hinsdale and Glasgow.

The average elevation of the irrigable area is 2,200 feet above sea level, and the temperature ranges from 50° below to 105° above zero. The average annual rainfall is 14 inches. The soil is sandy loam, clay loam, and some gumbo. The principal markets are Minneapolis and St. Paul, Great Falls, Pacific coast points and local.

The principal crops grown are small grains, alfalfa, native blue-joint hay, and vegetables. At the present time construction has reached the point where 61,000 acres can be supplied from completed canals. In 1918 there were 14,000 acres actually irrigated. As the project is of large proportions it will be some time before it is completed.

Sun River Project.

The Sun River Project is next to the Milk River in size, including an estimated irrigable area of 173,795 acres. It is located in Cascade, Chouteau, Lewis and Clark and Teton counties. The source of water supply is the Sun river and its tributaries, Deep Creek, Bowl Creek and Basin Creek. Two railroads serve the project, the Chicago, Milwaukee and St. Paul and the Great Northern. There are thirteen small towns on the project.

The average rainfall for this section for the past thirty years has been 11.09 inches. The range of temperature is from 40° below to 100° above. The soil is a sandy loam, clay, adobe and alluvium. The principal products are hay, grain, vegetables and live stock.

Lower Yellowstone Project.

The Lower Yellowstone Project is located in Richland and Dawson counties, Montana, and extends into McKenzie county, North Dakota. The project includes 60,116 acres of land and canals have been completed for 42,232 acres. The Yellowstone river is the source of water supply.

Alfalfa is the principal crop raised on the project. Wheat, flax, oats and barley are also raised. Sugar beets yield about eight tons per acre. Potatoes and corn give good results and the acreage in these crops is increasing each year.

Records for twelve years show the annual precipitation to be 15.56 inches, the greater part of which generally falls during May and June, the growing season. The project contains 514 farms with eight towns.

Digitized by Google

Sheep Growing, One of Carter County's Important Industries

Huntley Is a Fine Project.

The Huntley Project is located in Yellowstone county and is one of the oldest and most successful of all the reclamation projects in the state. There are 32,979 acres in the project, practically all of which are reached by completed irrigation works.

The land on the project is intensively cultivated and has produced enormous yields in the past. The character of the soil ranges from heavy clay to light sandy loam. The rainfall for the past ten years averaged 13.68 inches. The range of temperature is from 35° below zero to 105° above.

The principal crops raised on the project are sugar beets, alfalfa, wheat and oats and garden produce. There are 691 farms on the project.

Two railroads serve the project, the Northern Pacific and the Burlington. There are eight railway stations on the project, Huntley, Osborn, Worden, Newton, Pompeys Pillar, Bull Mountain, Ballantine and Anita.

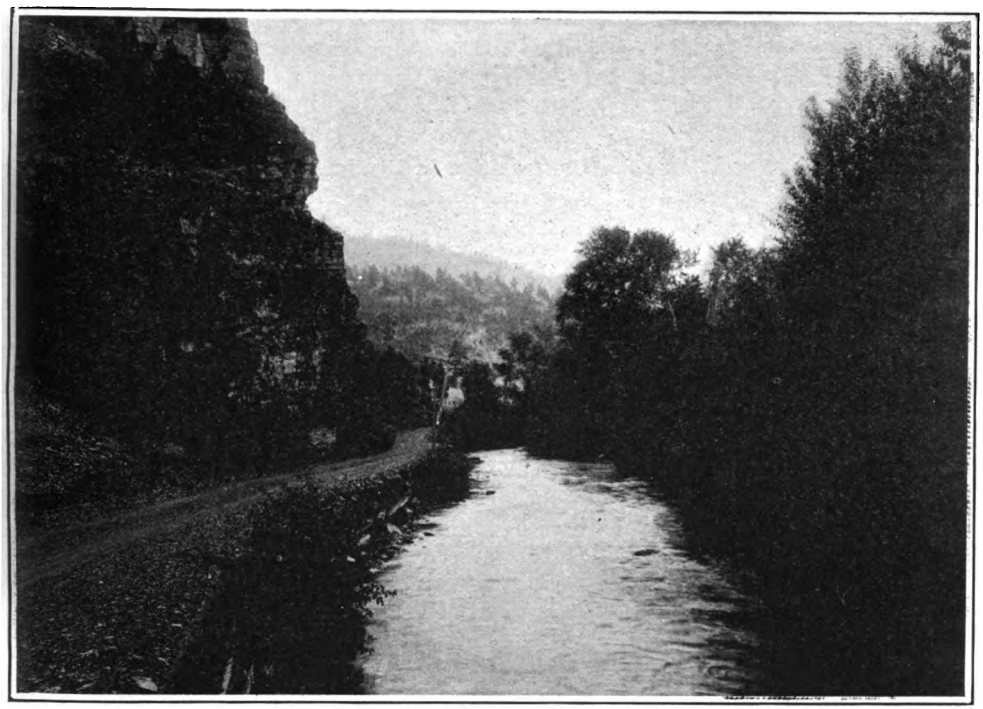
Fort Peck Indian Project.

The largest of the three Indian Projects is the Fort Peck, located in the northeastern part of the state on the reservation of that name. The project is being constructed by the Reclamation Service in co-operation with the Indian Service. It embraces an area of 152,000 acres in the valley of the Missouri river, Poplar River, Big Porcupine Creek, Little Porcupine Creek and Big Muddy Creek. But a small part of the project is completed as yet.

The soil is rich and produces excellent crops when irrigated. The average rainfall in this section for the past 33 years is 13.51 inches. The temperatures vary from 40° below to 105° above zero. The principal products on the project are hay, grain and vegetables. As the project is situated on the main line of the Great Northern railway, the principal markets are Minneapolis and St. Paul.

The irrigable land is withdrawn from entry at present. When the works are completed the total cost per acre will be announced and the land opened for entry by public notice from the Secretary of the Interior. A considerable number of the Indians are receiving patent in fee to their allotments and these are being disposed of, the purchaser assuming the payment of the construction of the irrigation works. By

Digitized by Google



In Prickly Pear Canyon

the act of May 18, 1919, Congress fixed the method of payment on a twenty year basis with the maximum payment of seven per cent of the total costs assessed against the land.

The Flathead Project.

The Flathead Project is located in the counties of Flathead, Sanders and Missoula and is on the Pacific slope on the drainage areas of the Flathead and Jocko rivers, on the former Flathead Indian Reservation.

The irrigable area of the project is given as 134,500 acres. Of this amount the Reclamation Service has works completed for 98,000 acres. All homestead land has been entered. State lands and certain Indian lands are leased. Ready sale occurs when these lands are offered.

The leading crops of the project for several years past have been wheat, oats, hay and potatoes. Fruits and garden vegetables are raised successfully. A considerable number of new settlers have come to the project, being purchasers of Indian allotments and state lands that have been sold. There are fourteen towns on the project.

The average rainfall for the past nine years was 17.94 inches. The elevation is 3,000 feet above sea level. The number of farms irrigated in 1918 was 650.

Blackfeet Indian Project.

The Blackfeet Project is located in the southeastern part of the Blackfeet Reservation, south of the town of Cut Bank. The plan is to irrigate a total acreage of 118,500 when the project is completed. Up to the present time irrigation works have been constructed for 48,240 acres, although but a small part of this was irrigated in 1919.

Four distinct units have now been constructed: the Two Medicine unit, diverting water from the Two Medicine river to water land adjacent to the Great Northern railway, west of the town of Cut Bank, embracing 24,000 acres; the Piegan system, diverting water from Badger creek to about 3,000 acres in the vicinity of Piegan; the

Digitized by Google

Badger-Fisher unit, diverting water from the Fisher canal to land on Fisher flat; and the Birch creek unit, to water about 2,600 acres on the southern part of the reservation. The lands to which irrigation works are constructed are Indian allotments and are being irrigated by Indians or white renters.

The climate on the project is such that wheat, flax, hay, oats and potatoes and small vegetables are successfully raised.

Federal Reclamation in Montana.

PROJECT	Estimated Total Irrigable Acre	Area for Which Irrigation Works Have Been Completed	Area Irrigated Season 1919	Total Expenditures to June 30, 1920	Estimated Total Cost of Project
	Acres	Acres	Acres	$	$
Huntley	32,800	31,265	19,310	$1,419,871.98	$1,912,000.00
Lower Yellowstone	59,529	42,167	21,300	2,893,504.99	3,153,504.99
*Milk River	191,800	67,700	45,500	5,984,968.82	9,427,000.00
Sun River	174,620	40,057	11,496	3,736,292.42	8,443,000.00
Totals	458,749	181,189	97,606	$14,034,634.21	$22,935,504.99

Indian Service Projects in Montana.

Blackfeet	118,500	48,240	9,767	$1,079,870.56	$3,600,000.00
Flathead	134,500	98,000	34,453	4,015,511.58	6,620,000.00
Fort Peck	152,000	16,620	1,047	740,093.00	5,630,000.00
Totals	405,000	162,860	45,267	$5,835,475.14	$15,850,000.00

Land Under the Carey Act.

In addition to the reclamation projects under the supervision of the Federal Government, there are six projects under the supervision of the state under the Carey Land Act Board. These six projects have an aggregate acreage of 162,285, segregated to the state under the Carey Act, of which 73,468 acres have been taken up by settlers, according to the latest available report.

Under this plan the lands are disposed of by the state and the projects are built and the land reclaimed by contracting companies under the supervision of the board. As soon as the Secretary of the Interior approves of the state's application for the land, the state enters into a contract with the promoting company for the reclamation and settlement of the lands. Plans and specifications regarding the construction of the irrigation systems must be submitted to the State Engineer and Carey Land Act Board for their approval. The company contracting gives a bond for the faithful performance of the contract, which specifies the price, terms and conditions under which water rights and eventually the canal system will be turned over to settlers.

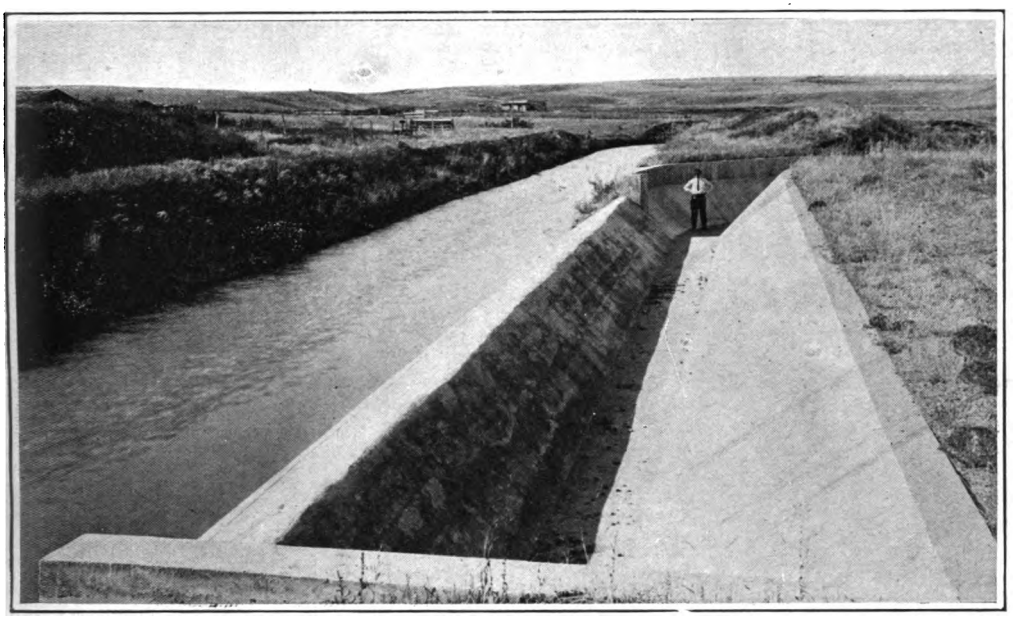
Who Can File on Land.

Every citizen of the United States is entitled to file upon Carey Act land to the extent of 160 acres, regardless of whether or not he has exhausted his rights under the general homestead laws. The settler must enter into a contract with the contracting company for his water rights at the time he makes his application for the land, and his application and contract are then submitted to the Carey Land Act Board for approval. If the application is allowed, the state issues him a certificate of location which serves him in lieu of title until final proof is made and patent received from the state. The water rights are paid for in installments covering a period of 10 to 14 years and the unpaid installments are a lien upon the land. The settlers also have the privilege of making deferred payments before their due date, with a proper rebate of interst, or of paying the entire purchase price of shares in cash at the time of purchase.

Valier Is Largest Project.

The largest of the Carey Act Projects is the Valier and includes 85,240 acres of Carey Act land, 56,782 acres of which are irrigable. The project also includes a big acreage of company and privately owned land. The contracting company is the Valier-Montana Land and Water Company, of Valier, Montana. There still remain 18,228 acres of Carey Act land open to entry, of which 13,197 acres are classified as irrigable. The project is almost entirely in the new county of Pondera.

Digitized by Google



Canal on the Lower Yellowstone Reclamation Project

The altitude is between 3,400 and 3,900 feet above sea level. The land lies in a gently rolling prairie country, clear of brush and trees and the soil varies from a deep sandy loam to a light sandy loam, with some heavy clay, and in the southwest corner it is gravelly. The source of water supply is Birch creek, supplemented by the waters of Dupuyer creek. The Birch Creek Canyon Reservoir, with an area of 506 acres and a capacity of 30,000 acre feet, and the big Lake Frances Reservoir, with an area of 5,536 acres and a capacity of 112,000 acre feet, are used to store the water. The total estimated cost of the project is $4,257,457, of which $4,132,457 has been expended.

The land on the Valier Project yields good crops and the settlers are among the most prosperous in Montana.

Teton Project.

The Teton Project is the second of the Carey Act projects in size, containing 34,166 acres, of which about 30,000 acres are irrigable. It is situated in Teton county, between the Valier Project and the Sun River Project of the United States Reclamation Service and has the same qualities of soil as these projects. The contracting company is the Teton Co-Operative Reservoir Company, of Helena, Montana.

The waters are obtained from the Teton River and the Blackleaf and Muddy Creeks. The land is not open to entry at present as the final approval of the project by the Federal authorities is still pending. About $400,000 in construction or work has been expended, however, and as soon as final approval is received the work will be rushed to completion.

The Billings Project.

The Billings Project, known generally as the "Billings Bench," is in Yellowstone county and lies northeast of the city of Billings. The project includes 13,223 acres of Carey Act land, of which 11,000 acres can be irrigated. There is also a large amount of company and privately owned land in the project. The contracting company in charge is the Billings Land and Irrigation Company, of Billings.

This project is considered to be one of the best of the Carey projects. The soil is a sandy and clay loam and produces good crops under normal conditions. The source of water supply is the Yellowstone River. The total cost of the project is estimated at $500,000, of which $496,700 has been expended.

Digitized by Google

Big Timber Project.

The lands of the Big Timber Project lie near the city of Big Timber, in Sweet Grass county. The project is one of the older Carey Act projects. It is not of large acreage, containing only about 11,299 acres. Of this amount there are 5,124 acres still open to entry under the Carey Act.

Flatwillow and Little Missouri.

The two Carey Act projects which so far have had little development are the Flatwillow Project in Fergus county and the Little Missouri Project in the southeastern corner of the state in Carter county. The Flatwillow contains 7,769 acres in southeastern Fergus county, with Flatwillow Creek as the source of water supply. The Little Missouri Project is the third of the Carey Act projects in size, containing an acreage of 20,608. The lands lie along the west side of the Little Missouri River, the source of water supply for the project.

Summary of Carey Act Reclamation.

PROJECT	CONTRACTING COMPANY	Total Carey Land	Total Carey Land Open	Total Cost of Project	Total Amount Expended
Valier	Valier Land and Water Co., Valier, Montana	85,240	18,228	$4,257,457	$4,132,457
Billings	Billings Land & Irrigation Co., Billings, Montana	13,223	2,070	500,000	496,699
Big Timber	Glass-Lindsay Land Co., Big Timber, Montana	11,299	5,124		
Teton	Teton Co-Operative Reservoir Co., Helena, Montana	34,166	None		400,000
Flatwillow	Fergus County Land & Irrigation Co., Lewistown, Montana	7,769	None		14,000
Little Missouri, Carter County.	Little Missouri Land & Irrigation Co., Butte, Montana	20,608	None	250,000	85,000

Irrigation Wins.

The Carey Land Act in Montana has met with success, although the experience of other western states has not been so satisfactory. People have been well satisfied with the administration of the projects and the companies operating them have handled their affairs in such a way that water is furnished at a reasonable price per acre.

An Irrigated Farm on Valier Project

Digitized by Google

Mines and Mining

Big Decrease in Value of Mineral Output Due to Low Prices—Montana Leading Silver Producer of the Country—Yogo Stones Dominate the World Markets.

ONTANA mines in 1919 produced metals and coal of an aggregate value of $77,032,975. This is a decrease of approximately $55,000,000 over the 1918 production and was due chiefy to the low prices for copper, lead and zinc, and the high costs of gold mining. Some labor trouble also retarded production. Montana retained its place as the leading silver producer in the country, and because of the high price of that metal compared with the price a few years ago, scores of silver mining camps in Montana that have been idle for years are being reopened, and there is every reason for believing that this activity will continue for the next few years. Montana coal mines produced ————tons of coal in 1919. Manganese properties which were developed during the war, practically all closing down when the armistice was signed, again became active this year, as the price for this metal rose nearly to war levels. On the pre-war quotations, however, it is said Montana manganese properties cannot operate at a profit.

State's Mineral Production.

The value of the mineral production of Montana in 1919, exclusive of manganese, as reported by the U. S. Geological Survey, is as follows:

Copper	$33,940,188
Silver	14,768,000
Zinc	12,915,000
Lead	2,411,787
Gold	2,272,000
	$66,307,975

The following resume of metal mining in Montana in 1919 was prepared by the United States Geological Survey:

Mining.

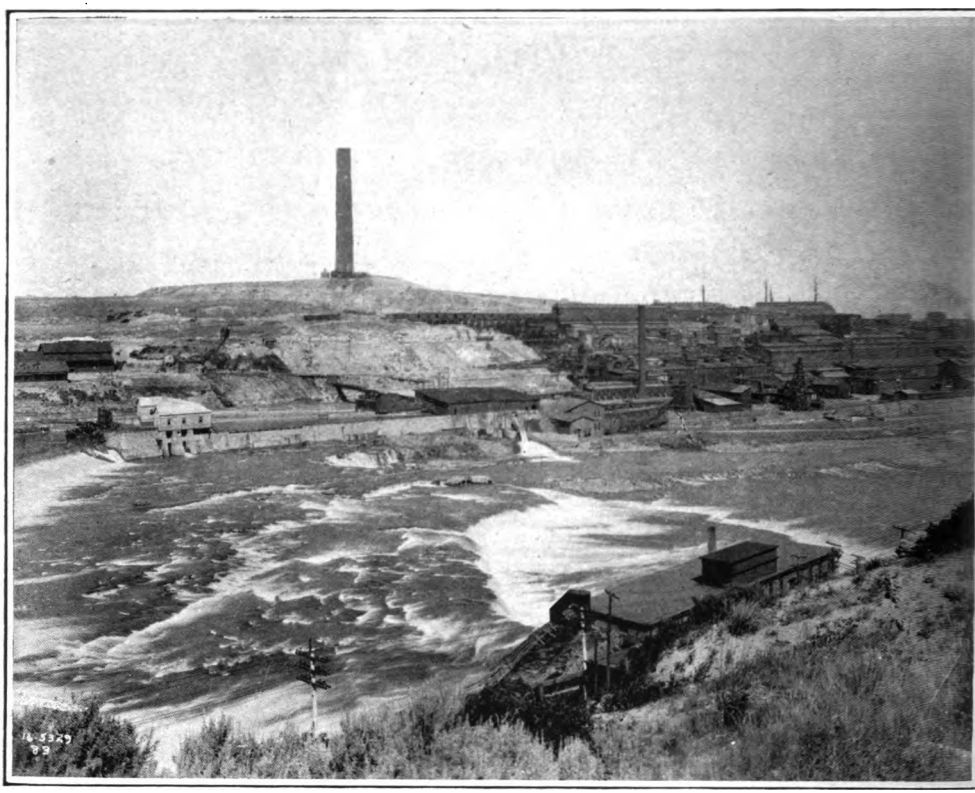
"All the metals but lead showed a decided decrease. On account of the low prices for copper, lead, and zinc, the mines at Butte, soon after the first of the year, reduced their output to about 60 per cent of the normal. Production from the mines was not seriously affected by strikes, though there was some labor trouble in February.

Decrease in Gold.

"The value of the gold output fell from $3,104,764 in 1918 to about $2,272,000 in 1919, a decrease of nearly 27 per cent. The main decrease was the output of gold derived from copper ores; there were slight decreases of gold derived from iron ore, siliceous ore, and from dredging. The Barnes King Mining Company, operating in Fergus and Lewis and Clark counties, produced the most gold from siliceous ores; the Southern Cross mine, in Deer Lodge county, produced much less gold.

"The mine output of silver decreased from 16,797,479 ounces in 1918 to about 13,281,000 ounces in 1919, and the value of the output decreased from $16,797,479 to about $14,768,000. In 1918 and 1919 Montana was the leading silver producer of the United States. In 1919, in past years, most of this silver came from copper ores, but

Digitized by Google



Reduction Works, the Anaconda Copper Company, at Great Falls

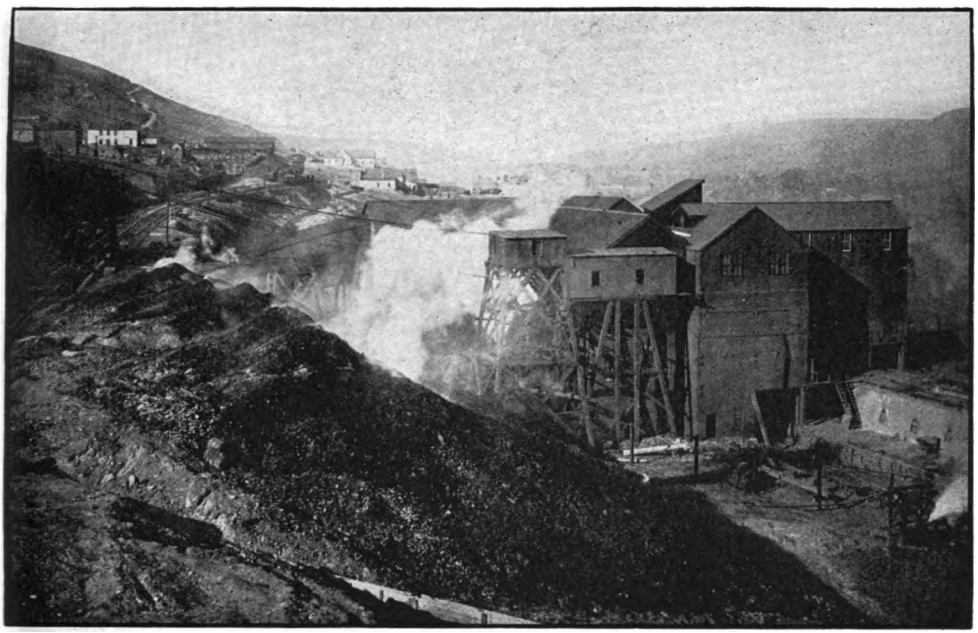
a large part of the increase consisted of residues from zinc ores, both those smelted in the East and those treated in the electrolytic plant at Great Falls, Mont. The principal producers of silver were the Anaconda Copper Mining Co., Butte and Superior, Elm Orlu, North Butte, East Butte, Davis Daly, Butte Reduction Works tailing dump, and the Granite-Bimetallic mine, at Philipsburg.

"The output of copper decreased from 323,174,850 pounds in 1918 to about 180,246,000 pounds in 1919. This represents a decrease of 142,928,000 pounds in quantity and $45,884,000 in value. The average monthly production of the smelting plants of the Anaconda Copper Company, at Great Falls and Anaconda, according to published statements, was nearly 13,000,000 pounds of copper, as against 24,500,000 pounds in 1918. The Pittsmont plant of the East Butte Company produced more than 1,500,000 pounds a month, instead of 2,000,000 pounds as in 1918. In addition to the mines of the Anaconda and East Butte companies, the North Butte, Davis Daly, Butte Reduction Works dump, Butte Ramsdall, Elm Orlu, Butte Duluth, Butte and Superior, Tuolumne, and Bullwhacker produced considerable copper.

Increase in Lead.

"The mine production of lead increased from 37,135,875 pounds in 1918 to about 42,163,000 pounds in 1919, but the value of the output decreased from $2,636,647 to about $2,411,767. A large part of the lead was obtained from the lead-zinc ores of the Butte district. The Snow Storm mine, at Troy, Lincoln county, and the Angelica mine, in Jefferson county, were also notable contributors. By-products from the electrolytic zinc plant at Great Falls have added greatly to the totals of both silver and lead. The lead smelter of the American Smelting & Refining Company at East Helena was active on ores and concentrates, most of them shipped from Idaho and Montana.

Digitized by Google



A Montana Coal Mine

"The output of recoverable zinc in Montana decreased from 209,258,148 pounds in 1918 to about 176,432,000 pounds in 1919. The value of the output decreased from $19,042,491 to about $12,915,000. The principal zinc producers of Montana were the Butte and Superior, Anaconda, Elm Orlu, and Butte Copper & Zinc mines. Smaller producers were the Snow Storm mine, in Lincoln county; the Davis Daly, at Butte; and the Montana Consolidated, in Jefferson county. Most of the zinc concentrate was smelted in the East, but zinc ore from the mines of the Anaconda Copper Mining Company was concentrated at Anaconda and the concentrates were leached at Great Falls. The electrolytic plant was active during 1919, but the output was less than that of 1918, when much custom material was treated.

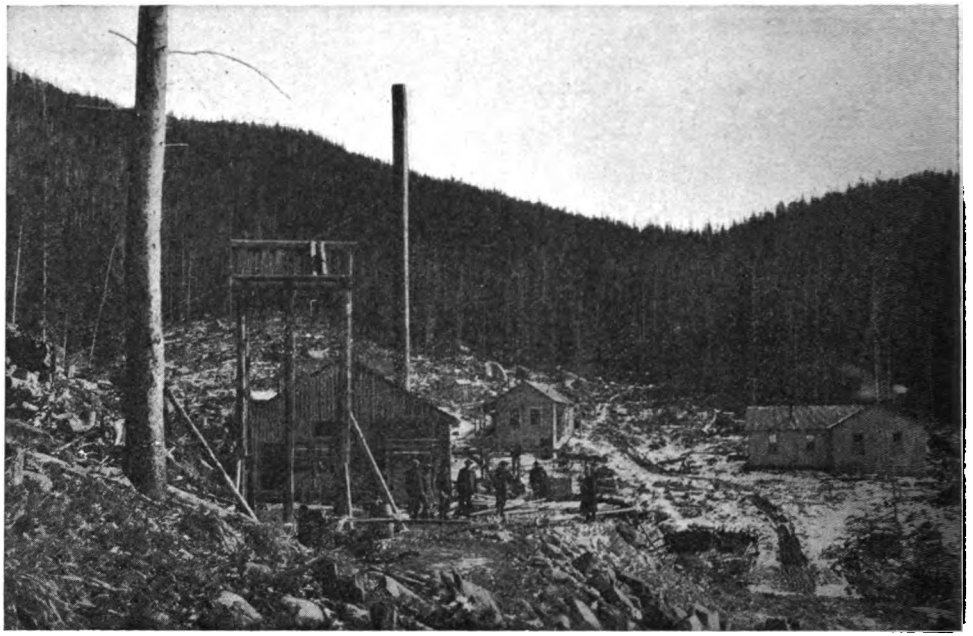
"The dividends paid by Montana companies for the first eleven months of 1919 amounted to about $10,590,600."

Silver Mines Active.

Outside of the Butte district where the big mines of Montana are found, there has been more activity in Jefferson county. Silver properties there which shut down a quarter of a century ago when the price of silver dropped to such low levels that it could not be mined at a profit were reopened, and many other undeveloped properties are being developed. There are mines in the Jefferson county district which produced as high as $15,000,000 in silver before the bottom fell out of that metal. Time has been required to pump them out, retimber shafts and drifts and make them ready to produce, but already they are producing a goodly tonnage of ore which there is every reason to believe will be largely increased in the next few months.

The old silver mining camp of Neihart, Cascade county, has experienced the same recrudescence as the Jefferson county district. The same is true of the Philipsburg district, Granite county, which has also benefitted from its manganese deposits. In northwestern Montana, in Lincoln county, the Snow Storm mine, a big silver and lead producer, has continued operations. The Boston & Montana, operating in the Elkhorn district of Beaverhead county, this year completed the building of a 38-mile narrow-gauge railroad to give it outside communication, and it will soon be in a position to operate. Development of the Cooke City mining district, at the northeastern corner of the Yellowstone park, has been hindered by lack of transportation facilities. Various projects are being pushed to overcome this obstacle.

Digitized by Google



Developing a New Mine.

Owners of Montana gold mines have made no effort to operate their properties and will not until such time as costs of labor, powder and other supplies decline or until a bonus is offered for gold production. The price of gold being fixed and stationary, and the basic unit of value of commodities, the gold mine operator during the past few years has had his expenses doubled while the value of his product remained unchanged. Hence, practically all the gold mining districts in Montana, in Phillips county, in Lewis and Clark county and in Beaverhead and Madison counties, are not turning a wheel.

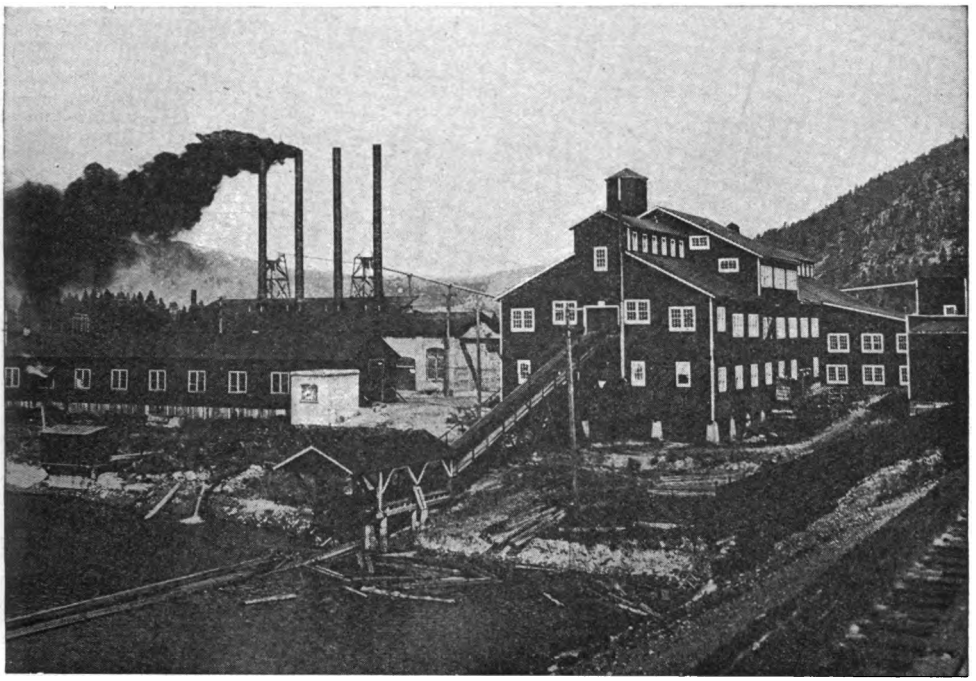
The only placer mining of consequence being done in Montana at present is in Madison county, where one hydraulic dredge is washing gold from the gravel beds of old Alder Gulch, the richest placer grounds ever located in the Rocky Mountains and whose discovery in 1864 led to the development and settlement of Montana. Harvard University is reported to be the chief stockholder in the company operating the dredge.

World's Greatest Camp.

Butte is not only Montana's greatest mining camp, but it is likewise the greatest mining camp in the world. First a small gold placer mining camp, it later developed into a quartz mining camp, the values being silver. With depth the silver virtually disappeared and was replaced by copper. It is this metal that made Butte what it is. Since 1906 when the oil flotation process made it possible to concentrate zinc ores and save that metal, zinc has steadily risen in importance, and Montana, or rather Butte, ranks next to Oklahoma in its output. Most of the silver produced in Montana in the past few years has been recovered as a by-product of the copper and zinc ores of the Butte district. Considerable gold was also recovered from the copper ores, while much lead has also been a by-product of the treatment of the zinc ores.

The Anaconda Copper Mining Company is the largest operating concern in the state. It shares the Butte field, however, with 15 independent companies. There are 50 producing mines in Butte, though not all of them are operating at the present time. They employ, when operating on full time, about 22,000 men. The deepest shaft in the Butte district is about 4,000 feet but most of the ore at present is being hoisted from levels ranging from 2,000 to 3,000 feet, vertical depth. Little ore has been hoisted from

Digitized by Google



Where Mine Timbers Are Turned Out

below the 3400-foot level. It is the policy of the companies to open up and develop one or two new levels at a time, blocking out ore in them and holding in reserve such a quantity as is sufficient for two or three years' consumption at the smelters and reduction works.

Three Large Smelters.

There are three large smelters in Montana and a score of small concentrating plants. The Washoe copper smelter at Anaconda is the largest plant of its kind in the world. The Great Falls plant, originally built for copper concentrating and smelting, is now devoted to copper refining, copper rod, wire and cable manufacture, electrolytic zinc production and ferro-manganese production. The copper smelting equipment remains in place, however.

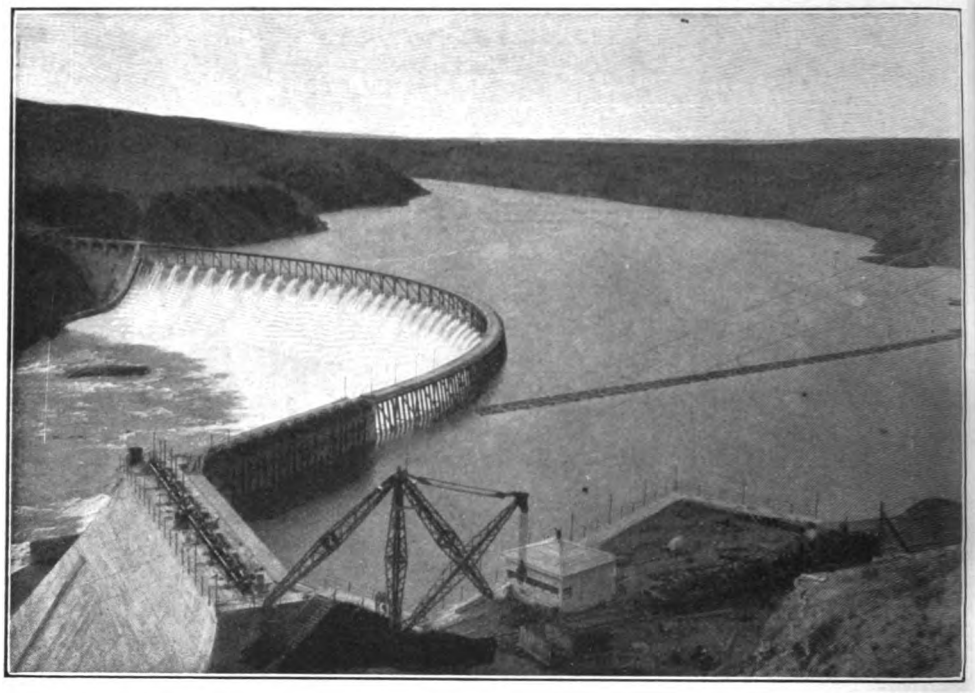
The only custom smelter in Montana is at East Helena. It handles silver-lead ores from the silver-lead districts of Montana and the Coeur d'Alenes in Idaho.

Immense Coal Beds.

Though Montana produced during the year ending December 31, 1919, 3,300,000 tons of coal, valued at $10,725,000, it has barely touched its immense deposits of coal. Experts say that 20 per cent of the state's surface is underlain with coal. The majority of Montana counties have coal or lignite deposits, as soon as developed, of commercial value. The possibilities of this industry in Montana are touched upon by Professor J. P. Rowe of the State University in a bulletin, "Montana Coal and Lignite Deposits":

"Few states can boast of such a distribution of natural fuel. In the eastern part of the state, the ranchers, and townspeople as well, burn nothing but lignite. Any one living on the plains and desiring a load of fuel, simply drives to his favorite nearby lignite seam and procures it. This is indeed a blessing. No timber to speak of within miles, and oftentimes remote from a railroad, the people are permitted to live and develop this great country without worry, and but little trouble, in securing the much-needed article in the development of every country—fuel.

Digitized by Google



Where Mine Power Comes From

"There are many good clay beds in Montana awaiting development. Many of these could be worked, and their products burned, by the use of nearby coal and lignitic fuel. Vast beds of gypsum and almost mountains of good limestone now lying idle, could easily be turned into commercial products by the use of neighboring beds of coal. The coal mining industry is still young in this state, but with the settlement of the vast unoccupied areas of her land, the value of this natural product will gradually be forced upon the minds of her people."

The principal coal mining counties in Montana at present are Carbon, Musselshell and Cascade.

Precious Stones Found.

Because of its sapphire field at Yogo, Fergus county, the product of which favorably compares with the oriental product. Montana leads all other states as a gem-producer. While sapphires are found along the Missouri river, 20 miles from Helena, along Dry Cottonwood creek, Deer Lodge county, and on Rock creek, Granite county, the Yogo field is the only one of commercial importance at present. It is controlled absolutely by a British syndicate which has curtailed production since 1914. The bulk of the sapphires used in the world come from the Yogo field. They are found in a rock matrix. The dyke has been opened for over six miles and the sapphire lead is about eight feet thick. All the Montana stones are sent to London and the cutting is done mostly in Switzerland.

Moss agate and mocha stone of fine quality occur in Montana, chiefly on the west side of the Yellowstone river from the Dakota line to the Yellowstone park. The gems cut from Montana moss agate and mocha stone bring from $1 to $300 apiece.

Black tourmaline has been found in considerable quantity in Jefferson county, garnets in many gravel deposits, yellow and smoky topaz, rhodonite and various varieties of jaspar. A large deposit of obsidian is located on Spanish creek in Gallatin county, south of Salesville.

Digitized by Google

Forestry and Lumbering

Indirect and Lasting Benefits Make State's 26,000,000 Acres of Forest and Mountains Its Most Valuable Possession — Federal Reserves Over Three-Fifths Area.

BECAUSE of its indirect and lasting benefits, the 26,000,000 acres of land in Montana classified as forest and mountain, is the most valuable part of the state. It is this area that makes the remaining 64,000,000 acres productive and capable of sustaining animal life. It is in the timbered areas of the mountains that the winter snows are conserved which feed the innumerable streams spanning Montana and furnish water for domestic, irrigating and power purposes. Direct benefits from the mountain and forest area are derived from lumbering and mining and grazing; from the scenic attractions, and from the big game that finds refuge in the timbered wilderness.

Ownership of Forests.

A trifle more than three-fifths of the timbered and mountain area—15,957,156 acres, to be exact—is in national forests. The state of Montana owns half a million acres, about 5,000,000 acres are in private hands, and the remaining 5,000,000 acres still belong to the public domain or is included within Indian reservations. Only a small portion of this remaining 5,000,000 acres is timber land.

Only within recent years has there come a realization of the indirect benefits derived from the forests. The national government, the state government and private interests cooperate to conserve them and avoid waste, chiefly from fires, and the indiscriminate burning of slashings which in the past has destroyed thousands of acres of young forest growth. Because of the extreme dryness of the 1919 season, the fire loss was heavy. There were 1957 fires, burning over 624,478 acres of land and destroying timber valued at $1,863,452. In fighting fires in 1919, $1,293,539 was expended, making a total monetary loss of $3,156,891. Three fire fighters lost their lives and over 200 were injured.

The National Forests.

One-sixth of the total area of Montana is included in the national forests and is directly under federal control. Of the 15,957,196 acres in national forests, 13,147,153 acres are timber land, 1,665,113 acres are grass land, and 1,144,930 acres are barren land. Much of the timbered area in addition to the grass land supports a very considerable amount of forage and is used for stock grazing. During the last fiscal year, ending June 30, 1919, permits were issued for 641,176 sheep and 187,198 cattle and horses on the forests of Montana, owned by 3,386 permittees.

Homesteads in Forests.

Under what is called the Forest Homestead Law passed June 11, 1906, 399,781 acres of national forest land have been listed and opened to settlement and entry under the homestead laws. This acreage embraces 3,169 distinct tracts, averaging 126.15 acres in extent. Only a few of the listed areas have not been entered. In 1912, the Secretary of Agriculture was directed to examine and classify all the national forest lands with a view to ascertaining what areas were suitable for agricultural use. The classification authorized has now been completed and all areas, except a very few which are now heavily timbered and which have been left for re-examination and classification when the timber is removed, which are chiefly valuable for agriculture, the occupation of which for agricultural purposes will not interfere with the administration of the national forests, and which are not needed for public purposes, have been opened to settlement and entry.

Digitized by Google

Taking Saw Logs to the Mill Over the Snow

Lands that are listed and opened to settlement may be entered under the ordinary homestead law and all information respecting filing upon and entering such lands should be obtained from the local United States land office. Information as to what land in each forest has been listed may be obtained from local forest supervisors. These listed lands are adapted to the production of all ordinary agricultural crops ordinarily grown in those sections of the state in which they are located.

When persons desirous of securing land for homestead purposes feel that a mistake was made in the classification of a certain tract as not chiefly valuable for agriculture and, therefore, non-listable, opportunity is given upon proper showing to have the land re-examined and the classification reconsidered. Information relative to procedure in such cases can be obtained from forest supervisors.

Grazing on the national forests is not a right given to any one by law, but is a privilege which the Secretary of Agriculture under authority conferred by law may allow under such regulations as he may deem to be for the public good and consistent with the purposes for which the forests are established. The Secretary has promulgated the necessary regulations and issued instructions for their administration. In the framing of the regulations, three primary objects were kept in mind:

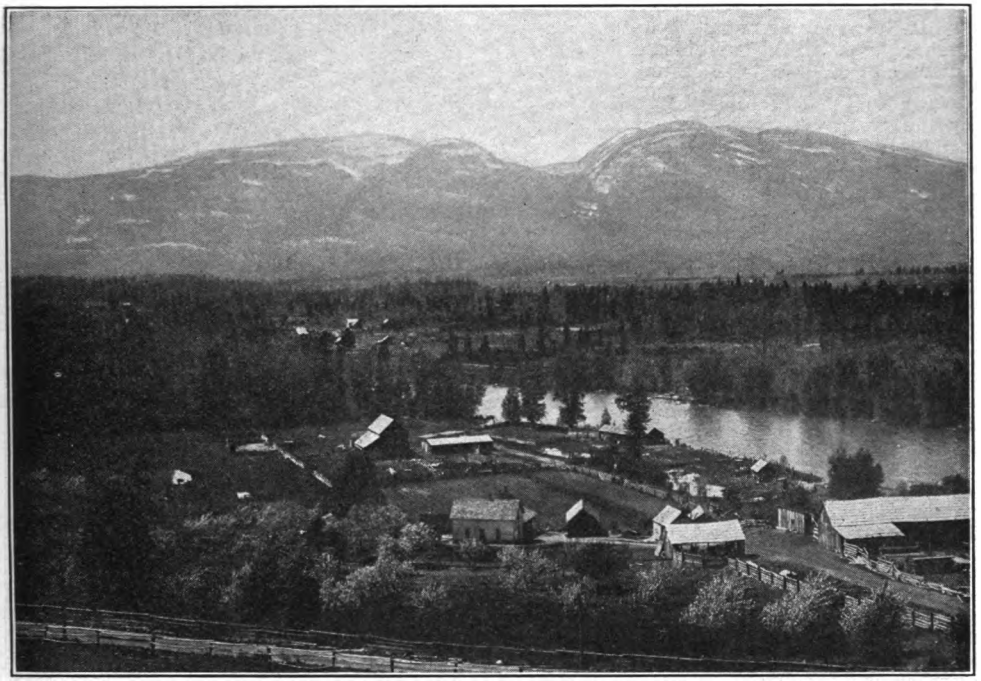
1. The protective and conservative use of all national forest lands adapted to grazing with a view to building up, and maintaining at the maximum, the productivity of the forest and range.

2. The permanent good of the livestock industry through the proper care and right utilization of the grazing lands.

3. The protection of bona fide settlers and homebuilders against unfair competition in the use of the range.

The Forest Service, to which is confided the administration of the grazing regulations, consistently tries to promote and stabilize the livestock industry. The success that has attended its efforts is attested by the practically unanimous endorsement of its methods by stockmen's organizations throughout the West and the widespread movement for the extension of Forest Service management to the public range outside the national forests.

Digitized by Google



In a Forest Valley

Protect Small Owners.

It is the established policy to protect the small stock owner against unfair competition for range and at the same time safeguard as far as possible the interests of larger owners who have used the range for a long time.

The rapid settlement of the country and the necessity of providing adequate range for the few head of stock belonging to settlers who are dependent upon national forest range for the proper development of their homes compel frequent readjustments of range privileges and at times a reduction in the number of stock larger owners can place on the range. Such reductions are made gradually and in a manner to cause the least injury or embarrassment consistent with the object to be attained. Furthermore, in the distribution of range, sheep and cattle are given separate allotments, thus obviating conflicts between the owners of the two kinds of stock.

Grazing permits are issued by the Forest Supervisor and applications for the same should be sent directly to his office. The grazing fees are nominal—considerably less than the leasing rate on private land in most cases. They are adjusted on the basis of the length of the grazing season in effect on the various forests. There are three different year-long rates in effect on different forests of Montana, depending on the location of the forest, quality of forage, and other factors. The year-long rates for cattle are 80 cents, $1 and $1.20 per head, depending upon the location of national forests and the character of the range. Year-long rates for horses are 25 per cent higher than for cattle, and for sheep one-fourth of the rate for cattle. Rates for seasons shorter than year-long are from 1-9 to 1-10 the year-long rate for the class of stock concerned, multiplied by the number of months in the short period.

Policy Regarding Stock.

It is expected of the permittees that their stock should be handled while on the forests in such a way as to prevent damage to the range or to the timber growth, and so that destructive erosion or washing of the soil will be prevented. To this end, cattle should be salted properly, both as to quantity and distribution of salt; and where large numbers graze on one range in common they should be herded. Herders are often employed by a livestock association made up of permittees who assess a small charge per head of the permitted stock to defray the expense. Sheep should be herded in a quiet manner avoiding all unnecessary trailing, and bedding not more than three nights in one place.

Digitized by Google

If the stock are not handled in such a way as to prevent damage to the range and timber growth, the number of stock is reduced and, in extreme cases, grazing is entirely prohibited until injury done is remedied.

Under the federal laws governing the forests, 25 per cent of the revenues received by the government on account of each national forest is paid into the state treasury and from there distributed among the various counties in which the forest is situated in the proportion which the forest acreage in each county bears to the total acreage of the forest. This 25 per cent fund is devoted to school and road purposes and applied in such manner as the state legislature may direct. In addition to the 25 per cent fund, 10 per cent of all forest revenues from each state is set aside for the construction of roads and trails within the forests in the state under the direction of the Secretary of Agriculture. The total net receipts of the government from all national forests in Montana for the fiscal year ending June 30, 1919, amounted to $385,525.72.

Lumber Mills in State.

According to the latest available census there are 195 lumber mills in the state of which 61 are idle, 98 are cutting more than 50,000 board feet and 36 less than 50,000 board feet. The 1919 lumber cut is estimated at 335,811,000 board feet, of which 66,000,000 board feet were cut on the national forests and the balance on private and state lands. The cut on state lands was approximately 24,000,000 board feet. The value of the 1919 lumber cut in Montana was $9,502,007, based on a price of $28.29 a thousand, the 1919 average selling price obtained F. O. B. the cars by the Western Pine Manufacturers' Association.

The stand on the permanent productive timber land for the state is estimated by the United States Forest Service to be about fifty-eight billion feet. The total productive commercial timbered area is 13,374,000 acres, half of which is covered with mature timber, and half with reproduction and young growth. In addition to the productive commercial timber land there are 3,577,000 acres of protective forest. The current annual growth for all species on the productive commercial timber land (exclusive of park land and protection forest) for the whole state, as determined very roughly, is 790 million feet. Since the lumber cut for 1919 has been given at about 335 million, and the entire cut for the state, including round timbers for the mines, cordwood, hewn ties, posts, poles, pilings, shingles and lath, does not exceed 600 million, no deduction need be made from the following estimated total stand:

Montana's Lumber Stand.

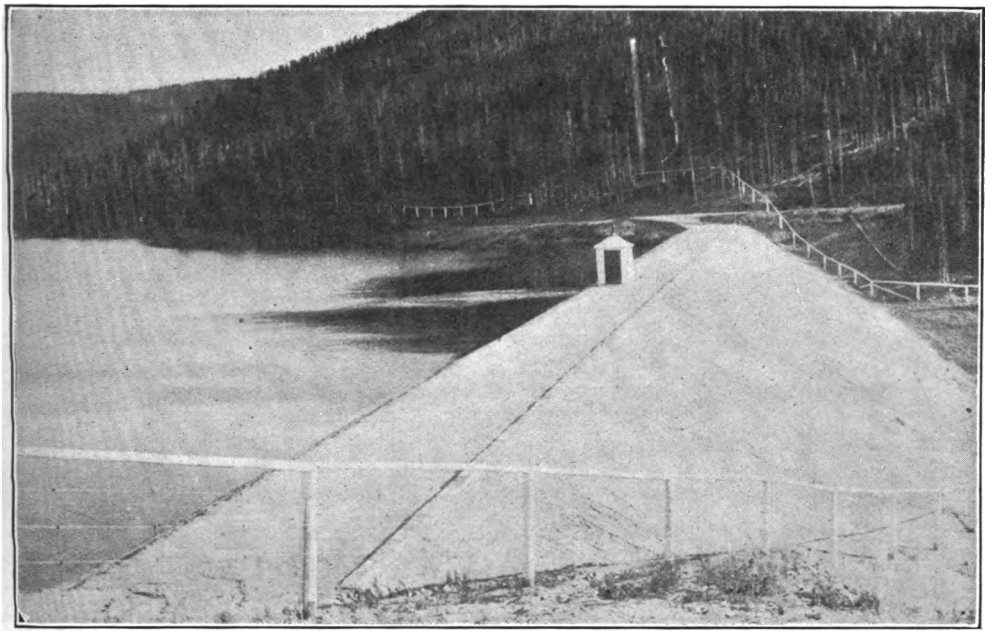
Forest Service	33,812 million feet
National Park	2,006 million feet
Public Domain	27 million feet
Indian	2,425 million feet
Total Federal	38,270 million feet
State	2,300 million feet
Private	17,501 million feet
Total	58,071 million feet

Kinds of Timber.

This body of timber is composed of the following commercial species: Douglas fir, 21 per cent; lodge pole pine, 24 per cent; western yellow pine, 19 per cent; western larch, 20 per cent; Engelmann spruce, 8 per cent; white pine, 2 per cent; cedar, 1 per cent; miscellaneous, 5 per cent. Other species found in smaller quantities are western hemlock, white fir, Alpine fir, limber pine, white bark pine and white spruce.

Western pine is the chief lumber producing tree, with Western larch a close second. The wood of the former is light and resinous and the grain is fine. The latter is in much demand for interior finishing as it is susceptible to stain and takes a high polish. The Douglas fir and lodge pole pine are used for general rough construction work in the Butte mines and for ties and fuel. Practically all of the lodge pole pine is held in federal ownership, 74 per cent of the spruce and 68 per cent of the Douglas fir. About one-half of the larch and yellow pine is in private hands.

Digitized by Google



A Municipal Water Supply Protected on National Forest

Montana Lumber Market.

The Montana market takes about 80 per cent of the lumber cut in Montana. The rest is sold in eastern states, some going to the Atlantic seaboard and some to Canada.

Montana mills supply only about 52 per cent of the lumber consumed within the state. It is estimated that 80,000,000 feet comes from Idaho mills, 213,000 from the Pacific Coast mills and approximately 1,000,000 feet of hardwoods from the eastern states. In theory the Montana lumber market should be supplied by Montana mills, but there is a certain amount of white pine, cedar and some Douglas fir clears and large timbers which could not be furnished by Montana forests.

There are 456 retail lumber yards in the state and 143 other concerns which handle more or less lumber. From 12 to 15 per cent of the railroad tonnage of the state is lumber and forest products.

It has been believed for some time that a splendid opportunity exists for at least one and perhaps two pulp mills. Estimates show enough suitable timber to supply such mills for fifty years if not indefinitely. No use is made at present of any of the by-products that could be utilized, such as fuel, sawdust, pulp for paper, creosote, wood alcohol, turpentine, paving blocks and tanbark.

It is estimated the total amount invested in mills, logging equipment, yards and transportation amounts to $78,000,000; while between 10,000 and 15,000 men are employed.

The following table gives the names and the gross acreage by counties of the national forests in Montana:

Digitized by Google

National Forests.

Forest	County	Area, Acres
Absarokee—	Meagher	77,722
	Park	677,639
	Sweet Grass	225,540
	Wheatland	6,809
	Absarokee Total	987,710
Beartooth—	Carbon	315,053
	Park	75,512
	Stillwater	91,092
	Sweet Grass	200,273
	Beartooth Total	681,930
Beaverhead—	Beaverhead	1,325,163
	Silver Bow	39,837
	Beaverhead Total	1,365,000
Bitterroot—	Missoula	26,301
	Ravalli	1,129,567
	Bitterroot Total	1,155,868
Blackfeet—	Flathead	729,949
	Lincoln	389,666
	Blackfeet Total	1,128,615
Cabinet—	Flathead	68,890
	Lincoln	8,371
	Sanders	965,963
	Cabinet Total	1,043,224
Custer—	Powder River	395,100
	Rosebud	104,408
	Custer Total	499,508
Deer Lodge—	Deer Lodge	305,140
	Granite	54,760
	Jefferson	354,720
	Madison	18,560
	Powell	70,930
	Silver Bow	159,890
	Deer Lodge Total	964,000
Flathead—	Flathead	1,433,679
	Lewis and Clark	49,000
	Missoula	250,900
	Powell	271,000
	Flathead Total	2,004,579
Gallatin—	Gallatin	613,857
	Madison	105,548
	Meagher	1,065
	Park	188,960
	Gallatin Total	909,430

Digitized by Google

Helena—	Broadwater	219,040
	Cascade	4,400
	Deer Lodge	2,000
	Gallatin	23,935
	Jefferson	147,835
	Lewis and Clark	243,418
	Meagher	133,489
	Powell	114,514
	Helena Total	888,631
Jefferson—	Cascade	424,208
	Chouteau	32,602
	Fergus	193,001
	Meagher	413,634
	Musselshell	24,480
	Phillips	30,720
	Wheatland	57,040
	Jefferson Total	1,175,685
Kootenai—	Lincoln	1,617,140
Lewis and Clark—	Glacier	32,256
	Lewis and Clark	422,152
	Pondera	121,616
	Teton	250,336
	Lewis and Clark Total	826,360
Lolo—	Mineral	723,755
	Missoula	411,695
	Ravalli	7,900
	Sanders	37,815
	Lolo Total	1,181,018
Madison—	Beaverhead	99,600
	Gallatin	184,320
	Madison	751,940
	Madison Total	1,035,860
Missoula—	Deer Lodge	10,097
	Granite	677,236
	Lewis and Clark	162,905
	Missoula	348,188
	Powell	169,765
	Missoula Total	1,368,191
Sioux—	Carter	114,541
Grand Total for Montana—Gross Area		18,947,290
Alienations		2,990,094
Net Area		15,957,156

Digitized by Google

Manufacturing

Copper Wire, Fertilizer and Explosives Among Products Made in Montana that Herald the Dawning of Industrial Decade. Much Progress Made.

THE industrial decade is dawning in Montana, and more and more plants are being established to turn the output of Montana's basic industries—agriculture and stockraising, mining and lumbering—into the finished products of commerce. It is predicted by some of the state's biggest business men, that within ten years the articles manufactured in Montana out of the state's own raw products will equal, if not exceed, the present value of the raw products. With its wealth of minerals, lumber, agricultural products, livestock, coal and hydro-electric power these men of vision point out that Montana has the raw products needed by the factories, the power and fuel with which to convert them into articles of commerce and to ship them to market, and the foodstuffs, hides and wool needed by an army of workers. The markets are coming closer to Montana as the country west of the Mississippi is developing, and the oriental market is also expanding rapidly, giving plants located in the western part of the United States a differential that heretofore has been exercised against them.

Recent Developments.

The most recent developments in Montana that point the way of the future are a plant that turns copper ingots into all kinds and sizes of copper rods and wires, another for the production of ferro-manganese, another that makes superphosphate fertilizer, and a score of smaller miscellaneous plants, the majority of which were established because they could utilize Montana products. Investigations and studies are now being made that may result in the establishment of other large manufacturing plants that will either utilize raw products of Montana or by-products secured in obtaining them.

It is almost certain that within a reasonable length of time a big pulp paper mill will be established in the state. Investigations of the Forest Service show Montana possesses all the raw materials needed in the manufacture of paper and the power and fuel such a plant requires.

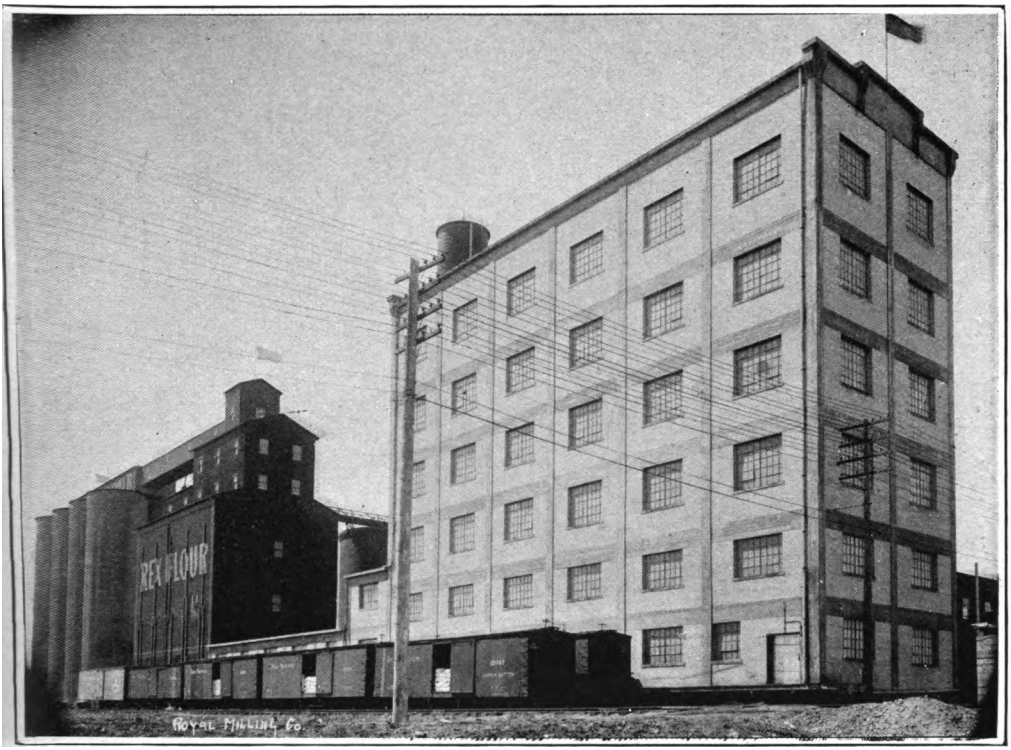
Montana has large deposits of iron ore. They have been investigated and reported upon by the steel mills of the east, and pronounced of great commercial value whenever the northwest reaches that stage of development when the demand for iron and steel will justify the investment in ore bodies and plants.

A Real Opportunity.

Operators of large industrial plants state there is a real opportunity in Montana for the establishment of a plant doing machine work and making steel castings from scrap steel in electric furnaces. The investment required would be not less than $100,000. There is no such plant in the northwest at the present time and all steel castings have to be shipped long distances by rail.

As might be expected, manufacturing involving the least details was first to be started in Montana. Lumber mills were about the first to be started and were followed by breweries and then flour mills. In recent years many lumber mills have carried their processes further and make sashes and doors and finished material. A fairly large plant is in operation at Helena that does cabinet and fixture work exclusively, shipping its raw material in the shape of hard wood by the carload. Many of the breweries have been converted into plants for making soft drinks. There are 195 lumber mills in Montana with an average annual cut of 335,811,000 board feet.

Digitized by Google



Royal Milling Company's Mill at Great Falls

Flour Mill Industry.

The flour mill industry has expanded rapidly, keeping pace with the agricultural development. There are at present 75 flour mills in the state with a combined milling capacity of 12,406 barrels of flour every 24 hours. Great Falls has made the most progress in this line, its mills having an aggregate capacity of 3500 barrels daily. Bozeman, in the Gallatin Valley, and Harlowton, adjacent to the best non-irrigated grain district in the state, vie for second place. Missoula, Billings and Kalispell are also important milling centers. Smaller mills are found in virtually all the grain growing districts. A number of the larger mills have engaged in the manufacture of breakfast foods and there are also independent breakfast food plants.

Manufacture of dairy products has kept pace with the development of the dairying industry. There are 31 creameries, seven cheese factories and one condensary operating in Montana. The product was valued at approximately $3,000,000 in 1919.

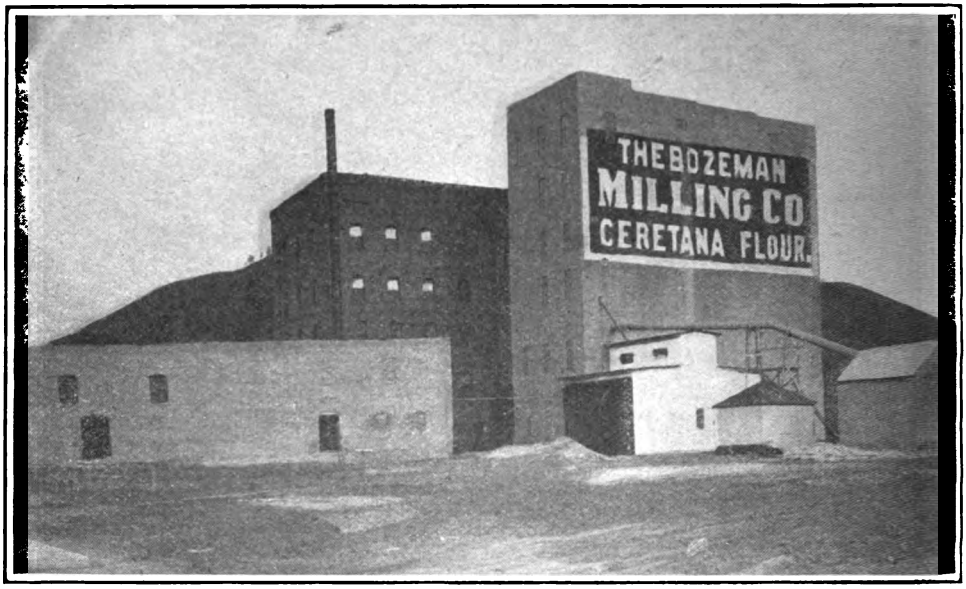
Two canning factories have been established. One, at Bozeman in the Gallatin Valley and the other at Stevensville in the Bitter Root Valley. Their 1919 pack was approximately 30,000 cases of vegetables.

Three Packing Plants.

Three packing plants are in operation, at Butte, Billings and Great Falls, respectively. Another is being built at East Helena. The Butte and Billings plants are under federal supervision, with federal inspectors permanently detailed to them.

The Great Western Sugar Company operates a sugar beet plant at Billings that is one of the largest in the United States. Another plant was built and a third was under construction, but because of the high price of grain and the difficulty of securing labor to care for the beets, farmers refused to contract sufficient acreage, and the plants have been dismantled and removed elsewhere.

Digitized by Google



Montana Flour Mills Company's Bozeman Plant

Sundry Manufactories.

There are 17 brick, tile and clay establishments in the state, two of which manufacture fire brick. Geologists report Montana has many good deposits of fire brick material. There is a large cement plant at Trident, Jefferson county, and a large cement-stucco plant at Hanover, Fergus county. The latest available figures show there are 42 power laundries in the state, 56 steam bakeries, 44 cigar manufactories, 13 monumental works, 15 foundries, repair and machine shops, and miscellaneous plants. Among the products of these miscellaneous plants are lamp black, denatured and medical alcohol, pickles, kraut and vinegar, marcaroni, crackers and pastry goods, sand and grindstones, tents and awnings, saddles and harness, rugs, rubber stamps, soap and candles, gypsum products, farm implements.

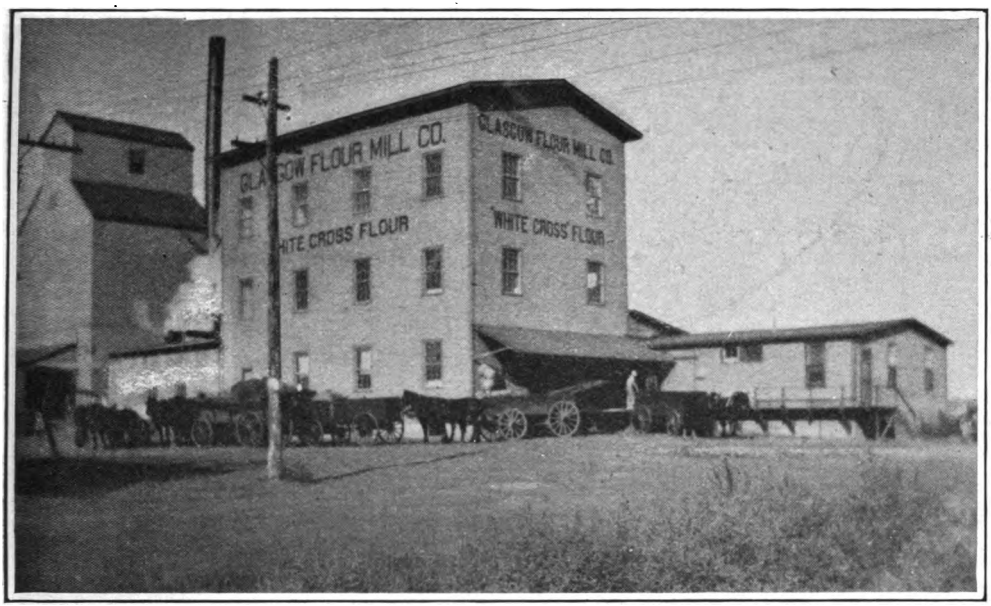
Montana has a wealth of building stone, and marble and onyx. Some development has been made of the building stone industry, chiefly in granite, but utilization of the marble and onyx deposits which are said to compare favorably with some of the best known deposits in the country, has not reached a commercial stage. It is believed there is an opening in the state for potato starch and flour plants and woolen mills, potatoes and wool being two of the state's staple products.

Produce Finished Copper.

It required nearly three decades to bring the copper industry of Montana to that stage of development where the product of the copper mines was converted, in Montana, from raw ore into a finished article of commerce. The Great Falls Reduction department of the Anaconda Copper Mining Company, originally built for the work of copper concentrating and smelting, has been gradually changed until now the plant is devoted to copper refining, copper rod, wire and cable manufacture, electrolytic zinc production and ferro-manganese production. The copper smelting equipment remains in place and may be used when the occasion requires.

The rolling mills are housed in a building 450 feet long and 125 feet wide, constructed of steel, brick and glass, with ample provision for light and ventilation. It employs 180 men and can handle 6,000,000 pounds of copper a month. This is the only wire mill west of the Mississippi river and there is every reason for believing that it will be enlarged. The product finds a market at present in Chicago, in South America, on the Pacific coast and in the orient. The equipment is as follows:

Digitized by Google



Where Valley County Wheat Is Made Into Flour

The rod mill, consisting of an 18-inch roughing mill, intermediate mill, finishing mill, bar-heating furnace, coilers, roll lathe for grooving the rolls, and all other accessory apparatus necessary to make the mill complete in operation and handling the product.

The wire-drawing machinery, consisting of a four-block bench for drawing large sizes of wire in coils, a continuous trolley wire-drawing bench with its reel stand, one 10-die continuous wire-drawing machine for drawing No. 12 and smaller sizes of wire, in coils or on reels, one six-die and one five-die machine for drawing wire from No. 6 to No. 12, and three single-die machines for drawing medium hard wire.

The annealing equipment, consisting of one double chamber non-oxidizing annealing furnace and one open-fire furnace.

The stranding equipment, consisting of three stranding machines of different capacities.

The electrolytic zinc plant receives zinc concentrates from Butte and Anaconda smelters, and after passing through the roasting, leaching and electrolyzing divisions reaches the casting division where the molten zinc is poured into moulds and emerges as slabs weighing about 50 pounds and certified to contain 99.9 per cent zinc.

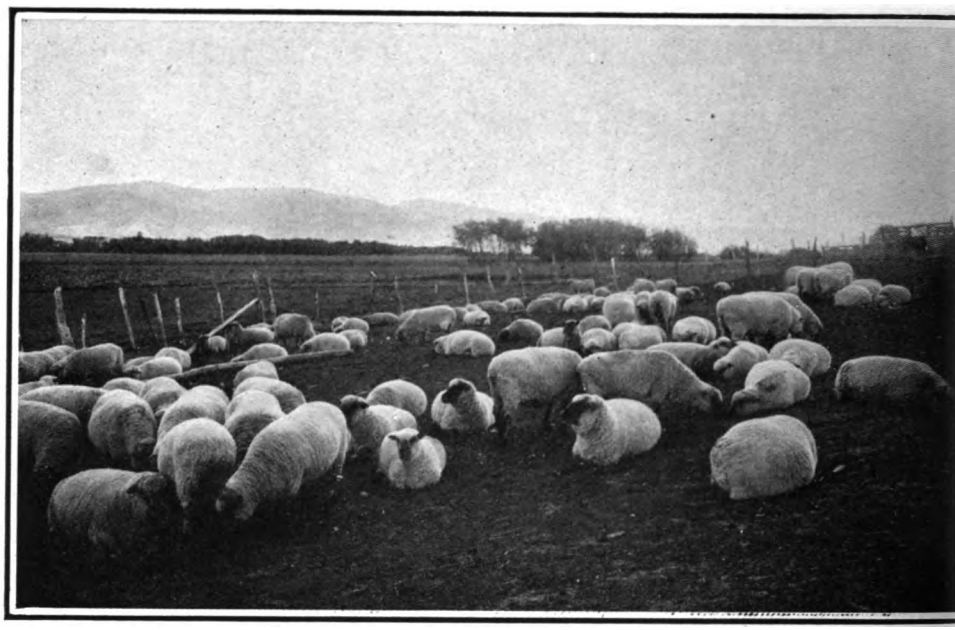
The feature of the ferro-manganese plant are the five electric furnaces, each with a capacity of 20 tons daily, which are the largest electric furnaces in the world. The ferro-manganese is broken up and shipped to steel plants, where it finds use in the deoxidizing of steel and in the manufacture of manganese steel.

Manufacturing Fertilizer.

Another new industry in Montana, and one capable of tremendous expansion, is the manufacture of fertilizer. The Anaconda Copper Mining Company this year completed and put into operation at Anaconda a small plant that produces 30 tons of treble acid phosphate fertilizer daily, and it has made plans for the erection of a large eight-unit plant, each unit of which will have a capacity of 175 tons of fertilizer daily. The first unit will be erected within the next few months.

While little commercial fertilizer is used in the northwest, the bill of the middle eastern and southern states for plant food aggregates millions of dollars annually. A market is also developing in the orient. While the market for this Anaconda plant

Digitized by Google



Montana Is Noted for Its Fine Wool

is remote and freight rates are high, officials of the company are confident the handicap can be overcome through making a superior acid phosphate fertilizer, and also by reason of the comparative cheapness of the raw phosphate rock and the sulphuric acid.

Ordinary acid phosphate fertilizer contains only 16 per cent phosphoric acid; the Anaconda product contains 48 per cent phosphoric acid. Not only will this concentrated Montana product effect a saving in freight rates when compared with the shipment of the ordinary product, but in its application to the soil it will mean less labor for the farmer. One hundred pounds of the Montana product will be as effective in stimulating plant growth as will be 300 pounds of the usual fertilizer.

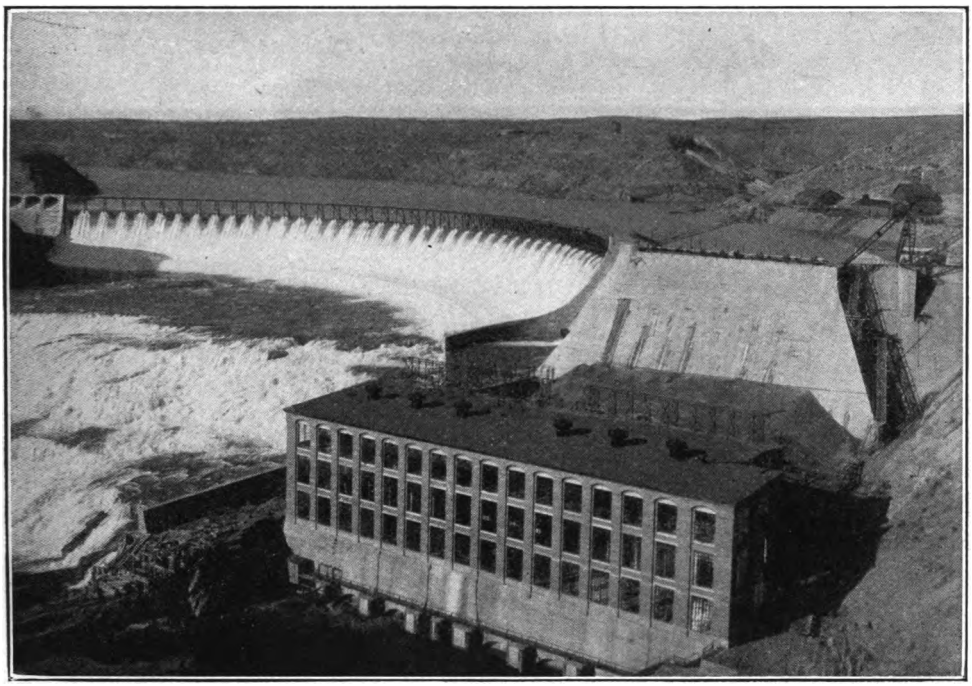
Largest in the West.

The manufacture of acid phosphate fertilizer has been confined in this country almost exclusively to the southern states along the Atlantic seaboard. The Montana plant is the only one of any size west of the Mississippi. The only other one west of that stream is in California.

Raw phosphate rock used by the Anaconda company in the manufacture of the fertiilzer comes from near Soda Springs, Idaho, where the company acquired 3800 acres of phosphate-bearing land with a probable tonnage estimate of 200,000,000. The best phosphate rock analyzes 80 per cent calcium phosphate. The Idaho rock tests 70 per cent, making it a very good grade.

The principal reason the Anaconda company has engaged in the manufacture of phosphate fertilizer is because it affords an opportunity to utilize large quantities of sulphuric acid which is a by-product of the copper smelters. Until the establishment of this fertilizer plant, there was a market for only about 3 per cent of the sulphuric acid that the Anaconda smelters could produce.

Digitized by Google



Power Plant Near Great Falls

It is reported negotiations are under way for the development of large phosphate beds at Maxwell, near Philipsburg, Granite county. Arrangements are also being made for the manufacture of a commercial fertilizer, made from sheep manure, in a plant at Harlowton, Wheatland county.

Explosives Made Here.

There is an explosive plant at Ramsey, located about nine miles from Butte, owned and operated by E. I. Du Pont de Nemours & Company, which manufactures various grades of dynamite and gelatin dynamite. It was established in 1916 for the purpose of supplying the industries located in the state of Montana, and has a capacity of about 8,000,000 pounds per year. The manufacture of explosives may be regarded as a key industry when considered in relation to many other lines of business. On it depends directly the successful and efficient carrying on of the mining, quarrying, railroad and highway building, many other lines of construction work, and certain important phases of farming. It is estimated that through the use of explosives more than 400,000,000 acres of land in the United States have been cleared and improved. Great numbers of industries depend indirectly on the use of explosives and without them modern business could not have made its progress.

The plant at Ramsey employs on an average some 55 workmen and the executive force numbers eight. Most of the buildings actually used in the operations are small structures, widely separated from one another for safety reasons.

It should be remembered that the production of dynamite is an exact science, and the various types of explosives are based on carefully worked out formulae. In this connection, no sketch of the plant at Ramsey would be complete without a reference to the large technical staff connected with the DuPont company whose efforts are constantly being expended in research work to find new and better methods for making commercial explosives. The Ramsey plant as a part of the DuPont organization shares in every advance and improvement worked out by this important body of chemists. Research work is the more important in the matter of dynamite manufacture because of the wide variety of uses of the material and the varying conditions under which it is employed. At the Ramsey plant, dynamite is manufactured for all the purposes for which this high explosive can be used.

Digitized by Google

Hydro-Electric Development

One Million Horsepower Eventually Will Be Harnessed on Montana Streams, Say Experts. White Fuel Will Result in Establishment of Factories.

ONE of Montana's greatest assets, the development of which is progressing many other industries, is hydro-electric power. Experts estimate that one million horsepower can be developed upon the larger streams of the state, as well as some more upon the smaller streams. Of the potential development possible upon the larger streams, 293,700 horsepower has been harnessed. The capacity already developed, expressed in kilowatts is 220,280. Of the power available, the maximum used has been 170,000 kilowatts and the average 150,000 kilowatts, which means there are approximately 70,000 kilowatts awaiting a market in Montana.

No state in the country has made more progress in the utilization of electricity than has Montana. The first long distance, high tension transmission line in the world was that built from the Canyon Ferry plant on the Missouri river near Helena to Butte, a distance of 90 miles. The power plant is used for lighting and heating in the cities, for driving street cars and long railroad trains, for hoisting ore and driving drills in the mines, for power and for smelting ore in the smelters, for pumping water for irrigation on the farms. The miscellaneous use of power in industry and manufacturing is steadily growing.

Will Bring Manufacturing.

Men in a position to know believe that because of Montana's immense possibilities for the development of hydro-electric power, within the next decade manufacturing on a big scale will have been established in the state. The largest electric furnaces in the world have been installed by the Anaconda Copper Mining Company at its Great Falls reduction works for the treatment of manganese ores in making the alloy known as ferro-manganese. Montana has big deposits of iron ore and the day is not far distant when these will be smelted by means of white fuel.

The Butte, Anaconda & Pacific Railway, with 90 miles of track carrying heavy traffic between Butte mines and the Anaconda smelters, was the first carrier in the world successfully to replace steam locomotives with big electric driven engines. The Chicago, Milwaukee & St. Paul Railway thereupon electrified its system from Harlowton, Montana, west to Avery, Idaho, a distance of 440 miles, and has now completed the electrification of its system to the coast. So successful has been the Milwaukee electrification that other transcontinental carriers are considering the electrification of the mountainous portions of their systems.

The Montana Power Company, formed by a consolidation of the Butte Electric & Power Company, the Missouri River Electric and Power Company, the Great Falls Power Company, and the Thompson Falls Power Company, is the principal operator in the Montana field. Companies operating in Montana and the capacity of their plants is as follows:

Companies in State.

	Generating Capacity	
	Kilowatts	H. P.
Montana Power Company	211,530	282,040
Missoula Light & Power Company	4,000	5,330
Northern Idaho & Montana Power Company	2,500	3,330
Western Smelting & Refining Company	1,500	2,000
Jardine Gold Mining & Milling Company	750	1,000
Total	220,280	293,700

Digitized by Google

Where Water Is Stored That Makes Electricity

The Montana Power Company at the present time has thirteen hydro-electric plants scattered over the state, generating 211,530 kilowatts; 1,922 miles of high tension transmission lines, connecting 75 substations, and over 1,000 men employed in running the plants. It has undeveloped sites that will supply 133,000 kilowatts more when the need arises. The complete summary of the plants under this company is as follows:

Complete Hydro-Electric Plants.	Installed Capacity (Kw.)
Rainbow Falls, on Missouri River, completed 1910, enlarged 1916	35,000
Black Eagle Falls, on Missouri River, reconstructed 1913	3,000
Hauser Lake, on Missouri River, completed 1911, enlarged 1914	18,000
Canyon Ferry, on Missouri River, completed 1898, enlarged 1901	7,500
Madison No. 1, on Madison River, completed 1901, remodeled 1907	2,000
Madison No. 2, on Madison River, completed 1906	10,000
Big Hole, on Big Hole River, completed 1898	3,000
Livingston, on Yellowstone River, completed 1906, enlarged 1908	1,500
Billings No. 1, on Yellowstone River, completed 1907	1,080
Lewistown, on Spring Creek, completed 1906, remodeled 1913	450
Great Falls, on Missouri River, at the Great Falls, completed 1916	60,000
Thompson Falls, on Clark's Fork of Columbia River, completed 1916	30,000
Holter, on Missouri River, completed 1918	40,000
Total Kilowatts	211,530

Sites Undeveloped.	Kilowatts
Madison No. 3, on Madison River	20,000
Great Falls "C," on Missouri River, above Great Falls	28,500
Sheep Creek, on Missouri River, below Great Falls	28,500
Fish Creek, on Missoula River	13,500
Black Eagle, on Missouri River, reconstruction	10,000
Snake River, on Snake River, Idaho	22,500
Mystic Lake, on West Rosebud River	10,000

Digitized by Google

An idea of the value of the power generated by these plants will be obtained when the statement is made that to produce 211,530 kilowatts for one year from coal would require 3,300,000 tons, which at the average price of $4.00, which would apply at the point where the power is used, would amount to $13,200,000.

Transmission Lines.

The transmission system of the company inter-connects all of its power plants with the exception of the Thompson Falls development, and covers an area extending 260 miles from east to west and 300 miles from north to south. The various lines are tied together through transformers and operated as one large distributing network, into which power is fed through each of the plants, and from which power is taken by numerous sub-stations, varying in size from the Great Falls Power Company's sub-station at Anaconda, having a capacity of 36,000 kilowatts, down to the lowest standard high-voltage sub-station of 250 kilowatts. Almost 2,000 miles of transmission lines are in operation, a considerable portion of which are steel tower lines.

	Miles
Steel tower lines, 110,000 volts	341
Pole lines, suspending insulator type, 110,000 volts	400
Pole lines, suspension insulator type, 50,000 to 100,000 volts	632
Pole lines, pin type, 11,000 to 60,000 volts	549
Total	1,922

Reservoirs for Storage.

Any successful generating system must have an even flow of water to its turbines. The low-water stage of the river limits the output that can be marketed continuously. To give a steady flow a reservoir has been provided at each of the plants, and in addition the great Hebgen reservoir has been built on the Madison river, to control the supply of both the Madison and Missouri rivers. A summary of the reservoirs follows:

	Area, Acres	Acre-Feet	Cubic Feet
Hebgen reservoir, on Madison River	13,400	322,000	14,000,000,000
Madison reservoir, on Madison River	4,030	21,000	915,000,000
Canyon Ferry reservoir, on Missouri River	4,570	36,000	1,570,000,000
Hauser Lake reservoir, on Missouri River	5,470	54,000	2,350,000,000
Big Hole reservoir, on Big Hole River	210	1,650	70,000,000
Rainbow reservoir, on Missouri River	120	1,000	40,000,000
Great Falls, on Missouri River	450	5,500	240,000,000
Thompson Falls, on Clark's Fork River	500	5,500	240,000,000
Holter reservoir, on Missouri River	5,005	89,000	3,850,000,000
Total			23,275,000,000

Many Other Power Sites.

There are many more power sites capable of development as soon as the demands for power increase. The possible developments are located in all parts of the state with the larger possibilities in the northwestern section of Montana, where the waters of the Flathead, Kootenai and other rivers will, when harnessed, furnish more than 500,000 horsepower. The power site at the mouth of Flathead lake, which is one of the most feasible in the state, has been reserved by the government in connection with the reclamation system covering a portion of what was formerly the Flathead Indian reservation. Several others have also been reserved while many are under private ownership. The largest undeveloped power site in eastern Montana is on the Big Horn river. A company has been organized to undertake this development, and in connection with it, there is likely to be a large reclamation project.

Digitized by Google

Banks and Banking

During the Past Five Years Deposits Have More Than Doubled in Montana Institutions — Gain of Hundred Million Dollars in Resources in Same Period.

ERHAPS nothing better demonstrates the intrinsic soundness of Montana than the fact that during the past five-year period total bank deposits increased from $85,654,485 to $194,219,695. And during three years of this five-year period when bank deposits increased more than two-fold, a drouth prevailed in Montana that seriously affected the agricultural and livestock interests. But the piling up of the bank deposits shows that the foundations upon which the prosperity of Montana depend have been laid so broad and so deep that even sustained adverse weather conditions could not wholly check it. Bank deposits in 1919 were $250 per capita, compared with $235 per capita in 1918.

So important, indeed, has become the banking industry of Montana that the Federal Reserve Bank of Minneapolis, headquarters for the Ninth Reserve district, established a branch bank at Helena to serve Montana interests exclusively. This is the only branch authorized in the Ninth district. A commodious building was purchased, which, with vaults and improvements, represents an investment upwards of $150,000 in the Helena branch bank. Establishment of this branch will enable Montana banks, and through them, their customers, to obtain much quicker service. Practically all points in Montana can be reached overnight from Helena. The Helena branch will carry at all times in its vaults from $3,000,000 to $5,000,000 to serve Montana needs.

Banks in Montana.

January 1, 1920, there were 288 state and 142 national banks in Montana. All of the national banks belong to the federal reserve system, and the state banks are rapidly joining. It is believed that many more state banks will become members of the federal reserve system as the benefits to be obtained through the establishment of the Helena branch are realized.

The following figures, compiled from bank calls in June of each year, show the growth of Montana banks, both state and national. In 1915 they had total resources of $114,742,763, which increased to $222,481,000 in 1919, a gain of $107,738,237. Their deposits in 1915 were $85,654,485 which increased to $177,626,994 in 1919, a gain of $91,972,509. The bank call for December, 1919, showed a total of $194,219,695 in deposits. Deposits by counties, in state banks, as shown by the December, 1919, call, were as follows:

Bank Deposits in Montana.

Name of County	Due to Banks	Demand Deposits	Time Deposits
Beaverhead	$ 10,000.00	$ 1,077,466.16	$ 999,694.38
Big Horn	.....	440,160.02	81,672.50
Blaine	31.41	271,376.71	155,283.87
Broadwater	.....	502,807.54	232,941.52
Carbon	32,445.14	1,658,079.49	1,308,783.61
Carter	.....	329,000.56	137,128.27
Cascade	415,717.03	4,203,819.62	2,372,883.01
Chouteau	3,668.34	1,058,555.28	469,961.93
Custer	21,236.87	882,911.61	631.932.44
Deer Lodge	42,570.25	1,307,499.98	1,192,389.18
Dawson	279.41	765,107.88	287,946.96
Fallon	106.08	502,183.24	432,235.70

Digitized by Google

Fergus	256,176.47	3,618,005.77	2,465,617.70
Flathead	5,854.48	683,419.19	580,271.49
Gallatin	18,766.41	1,854,088.67	990,790.16
Garfield	60.44	182,091.18	35,266.99
Glacier		267,911.90	60,933.12
Granite	1,500.00	1,102,873.64	363,764.67
Hill	23,058.00	1,483,303.67	1,398,052.48
Jefferson	6,414.58	658,089.71	168,531.28
Lincoln		662,701.03	233,421.82
Lewis and Clark	2,527,837.94	4,243,307.11	3,923,229.22
Madison	94,397.19	1,893,466.81	515,920.10
Meagher		428,522.51	125,320.37
Mineral		227,642.15	18,317.07
Missoula	129,581.56	1,958,950.11	1,774,264.93
Musselshell	17,948.32	1,069,611.21	831,903.31
McCone		242,463.25	96,458.10
Park	15,175.72	914,002.01	874,277.55
Phillips	1,384.52	517,213.98	326,822.94
Pondera	223.53	740,728.56	450,315.06
Powder River		169,884.53	24,886.27
Powell		1,285,752.22	631,331.72
Prairie		514,986.05	536,359.71
Ravalli	12,436.06	1,365,450.80	604,848.47
Richland	41,065.30	680,314.71	697,689.84
Rosebud	3,064.02	945,474.78	617,033.81
Roosevelt	30,430.13	1,106,896.24	1,042,926.15
Sanders		549,232.48	186,232.82
Silver Bow	391,461.38	3,925,847.96	3,273,354.70
Stillwater	12,873.34	502,605.79	438,873.55
Sweet Grass	157.64	881,995.60	863,895.72
Sheridan	3,757.25	1,581,377.66	1,850,487.45
Teton		743,304.59	236,278.90
Treasure		138,572.66	15,524.65
Toole	5,880.02	723,827.71	190,586.37
Valley		606,583.00	646,477.64
Wheatland	19,207.22	752,284.85	484,085.90
Wibaux	12,825.53	232,258.80	221,429.70
Yellowstone	202,817.07	1,959,727.52	1,115,203.89
	$ 4,360,407.46	$ 54,403,758.20	$37,814,009.35
Private Banks—			
All Montana (eight banks)	306,456.20	6,315,576.03	4,367,324.42
State Banks—			
All Montana (131 banks; 11 more not reporting)	6,045,142.84	50,204,783.17	30,402,232.90
Grand Total	$10,712,006.50	$110,924,117.40	$72,583,566.67

State Bank Examiners.

All of the banks under state supervision come under the department of the State Superintendent of Banks and his assistants. One assistant superintendent and four deputy bank examiners keep a close supervision on all of these state institutions. The state inspectors visit the banks for inspection twice each year. They verify the books and records of the business transactions and otherwise see that the bank is living up to the letter of the law. They have performed their duties so well that there has not been a single bank failure in Montana in the past five years, and there have only been five bank failures in the state in the past 20 years.

The state banks are required to take out state charters before engaging in business. The law requires that they keep on hand, as a reserve fund, 15 per cent of their liabilities, which is made up of the demand deposits, time deposits, the amount due to other banks and cashier's checks. The amount of reserve on hand in the state banks June 30, 1919, averaged 20.5 per cent or $7,933,535 surplus over the required amount.

A feature of the state banking laws, which protects the depositors, is the prohibition against the buying of the stocks of other corporations by the banks of the state. The banks can purchase United States bonds, state bonds, county bonds, city bonds and school bonds.

Digitized by Google

Oil and Gas

Thirty Year Search Is Rewarded at Last by Producing Wells in Musselshell, Fergus and Garfield Counties — Value as Yet Undetermined.

AFTER intermittent prospecting for more than 30 years, a producing oil well was discovered in Montana in November of 1919. Three more producing wells were struck within the next eight months and at the present time scores of companies are busy drilling and testing out various domes in Montana that appear favorable for the discovery of oil. While apparently Montana had added another industry to its numerous enterprises, its scope and value remain to be demonstrated. The oil industry may assume big proportions but more drilling must be done before this fact is determined. However, the prospects are most favorable. The extension into Montana of the Wyoming fields that have been steady producers for years, the development of valuable gas fields in southern Alberta, the drilling in of large gas wells near Havre, Glendive and Baker, and finally the bringing in of high grade oil wells on the Cat Creek anticline (Fergus and Garfield counties) in May, have led petroleum engineers seriously to consider Montana as the next big oil producing state.

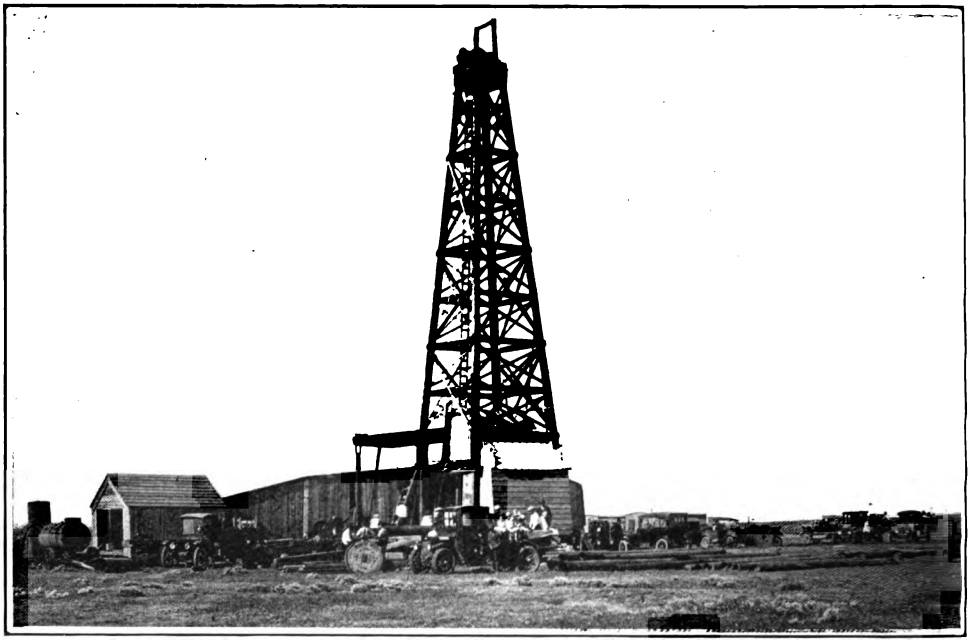
Oil History of State.

The first effort to find oil in Montana was made in 1890, it is said, in Blaine county in the Chinook field. A hole was sunk 960 feet in township 32 N., range 16 E. Only gas was encountered. A few years later drilling was undertaken by a Helena syndicate in the Kintla Lakes district of what is now the Glacier National Park, but without results. In subsequent years drilling was done in Hill, Wheatland, Stillwater and Yellowstone counties. In 1915 the first discovery of oil in Montana was made in the Elk Basin field, Carbon county, just over the Wyoming line, at a depth of 1,245 feet. Oil was struck in commercial quantities at a depth of 1,490 feet. The same year several wells were drilled in Musselshell county. In 1917 the Foster well was drilled in the west end of the Crazy Woman's Pocket in Musselshell county. At a depth of 1,700 to 2,000 feet strong traces of oil and gas was encountered but heavy water pressure and lack of funds caused an abandonment of the enterprise.

In 1919 a well was drilled on section 29-8-21 in the Crazy Woman's Pocket and at a depth of 1,870 feet oil was struck. Drilling was continued, however, to a depth of 2,370 feet when the well was abandoned because of the heavy pressure of water. In November of 1919 the Van Duzen company, drilling on section 24-11-24 in the Devil's Basin, 23 miles northwest of Roundup, brought in what is considered the first real Montana oil well, and the well that brought in capital and operators on a big scale to test the Montana field. At a depth of 1,175 feet oil began flowing over the top of the casing. The oil is reported to be of a heavy grade. It is said to be the intention of the company to drill to the second oil sands, believing that a larger flow and a higher grade of oil will be obtained.

The Frantz Corporation brought in the second well February 18, in the Mosby field near the town of Winnett, Fergus county. At a depth of 1,015 feet the bit cut into the oil-bearing sands, a second Kootenai formation, and the well is reported to be producing about 400 barrels of oil every 24 hours. The oil sands are said to be 70 feet in thickness. The oil is of a paraffin base, 47 degrees Baume gravity, or about 50 per cent in gasoline content and of high commercial value. In May the same company brought in a second well in the same field, but east of the Musselshell river in Garfield county. In August the Decker-Collins Company brought in a well in the same field.

Digitized by Google



In the Carter County Oil Field

Among other prospective fields where drilling is now under way or contemplated in Montana are the various domes in Fergus, Garfield and Musselshell counties, the Porcupine dome of Rosebud county, the Bowdoin dome of Phillips and Valley counties, and domes in Teton, Lewis and Clark, Park, Stillwater, Sheridan, Carbon and several eastern Montana counties.

Oil From Shale.

Besides prospective oil fields, Montana has many deposits of oil shales. Only one field, that in Smallhorn canyon, Beaverhead county, has been developed. A plant producing 200 gallons of oil daily has been erected and is in operation. Two grades of oil are produced, in addition to a good grade of gasoline, and the burned shale is said to run so high in phosphate that it is valuable as a fertilizer. The oil is said to be well adapted for flotation purposes in the recovery of minerals, and, with additional filtration, is an excellent lubricant.

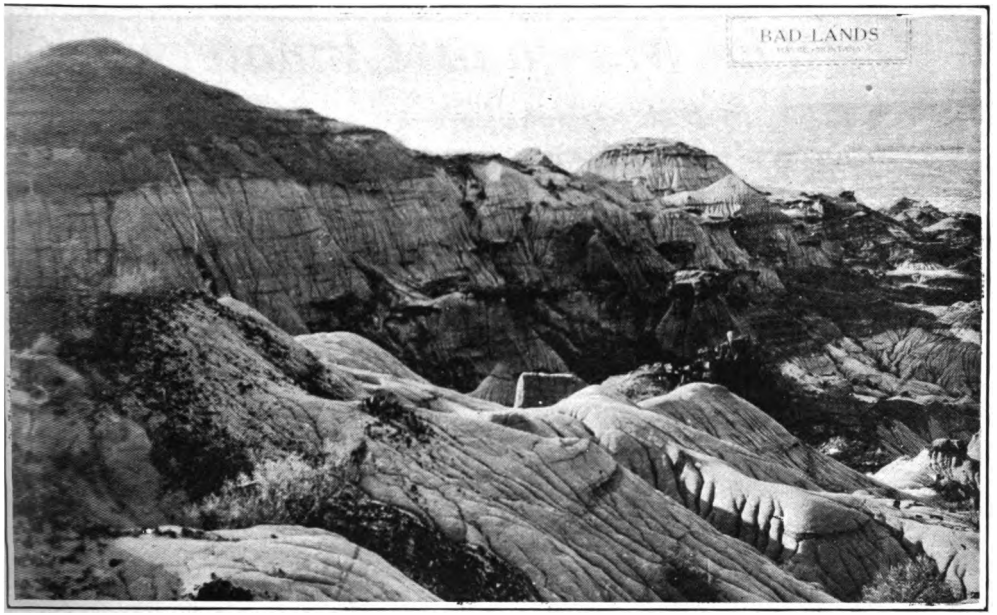
Several bulletins have been published by the United States Geological Survey dealing with various potential oil domes and oil shale deposits in Montana.

Oil and Coal Leases.

For many years thousands of acres of land in Montana, believed to be valuable for coal, oil or phosphate, were withdrawn from entry. These have now been opened to entry and development under the terms of the coal and oil leasing bill passed within the year by congress. The bill provides that government owned coal land will be sub-divided into leasing tracts of 40 acres each or multiple thereof. No one leasing tract can contain more than 2,560 acres. Leases are to be awarded by competitive bidding. Where prospecting is necessary to determine the existence or workability of coal deposits the Secretary of the Interior may issue a prospecting permit for two years covering not to exceed 2,560 acres, and if within that time the permittee shows the land contains coal in commercial quantities, he is to be entitled to a lease. No railroad will be permitted to hold a lease to mine coal except for its own use, and no railroad can receive more than one lease for each 200 miles of its railroad line within the state in which the coal land is situated.

The bill provides that when the government decides to lease a tract of coal land it shall announce in advance of the offering of the leases the royalty that will be charged. This royalty is to be not less than five cents a ton of 2,000 pounds, payable

Digitized by Google



Bad Lands Near Havre

at the end of each third month succeeding that of extraction of the coal from the mine, and an annual rental, payable at the date of the lease and annually thereafter on the lands or coal deposits covered by the lease at such rate as may be fixed by the Secretary of the Interior prior to offering the lease.

The rental is to be not less than 25 cents an acre for the first year, not less than 50 cents an acre for the second, third, fourth and fifth years, and not less than $1 an acre for each year thereafter during the continuance of the lease. Leases are to be for indeterminate periods on condition of diligent development and continuous operation of the mine except when operation shall be interrupted by strikes. At the end of each 20-year period the Secretary of the Interior may require a readjustment of terms and conditions.

Oil and Gas.

As to oil and gas, the legislation provides that the Secretary of the Interior may grant to any qualified applicant the exclusive right for a period not exceeding two years to prospect for oil and gas upon not to exceed 2,560 acres of government land. On establishing to the satisfaction of the Interior department that he has located valuable deposits of oil or gas the permittee is to be entitled to a lease for one-fourth of the land embraced in his prospecting permit. The lease is to be for a term of 20 years upon a royalty of 5 per cent of the value of the production and the annual payment in advance of a rental of $1 an acre, the rental paid for any one year to be credited against the royalties as they accrue for that year. The permittee is to be entitled to a preference right to a lease for the remainder of the land in his prospecting permit at a royalty of not less than 12½ per cent of the value of the production.

Phosphates, oil shale and sodium are to be taken from the public domain in the same general terms that apply to coal, oil and gas. Each lease is to be for not to exceed 2,560 acres and is to run for 20 years. The person who takes a phosphate lease will pay not less than 25 cents an acre for the first year, 50 cents an acre for the second, third, fourth and fifth years, and $1 an acre for each year thereafter.

Digitized by Google

The Montana Climate

Temperature and Precipitation Widely Vary in Different Parts of the State — Three Districts Recognized—Many Advantages Here for Crop Growth.

HAT is the Montana climate? No correct answer can be given to such a question because the state is 535 miles long and 275 miles wide and altitudes vary from under 2,000 feet to above 12,000 feet and in this vast region there are mountain districts and plains districts where climatic conditions are radically different. One part of Montana is adapted to the growing of fruit, another to corn; others are well adapted to a wide variation of farm crops and still other districts are fitted only for the grazing of livestock. Meteorologists divide Montana into three districts, the mountain district west of the main range, the central district about the main range of the Rockies, and the plains district. Even within these districts there are wide variations. But the general features of the climate of Montana are perhaps best summarized in Bulletin Q of the U. S. Weather Bureau, from which the following quotation is taken:

General Climatic Features.

"Temperature.—The temperature values, especially the extremes, as published in the climatological reports, are apt to convey an erroneous impression of this element. The annual extremes are as great as are to be found in any other section of the country. But the low winter temperatures, as a rule, do not continue for long periods, and are accompanied by dry and a comparatively calm atmosphere, which renders them more endurable to animal life than much higher temperatures where these conditions are absent. It is largely due to these features that the stock can be raised on ranges without shelter, and that outdoor occupations can be carried on with little interruption or discomfort during the winter and spring months. The summer temperatures, on the other hand, are never oppressive. During the middle of the long summer days of this high latitude the temperature often rises higher than in the southern states, but it cools rapidly in the evening by radiation and hot nights are never experienced. There are usually a few days in one or more of the summer months when maximum temperatures of 90° or above are recorded in the mountain sections and 100° or above on the plains. In the western valleys minimum temperatures of −20° to −25° are comparatively rare, while on the plains it is not unusual to experience extremes of −40° to −45°. The annual mean temperature ranges from 37° in the extreme northeastern portion to 47° in some of the sheltered valleys. The warmest sections are in the upper Yellowstone valley, in the basin west of the main divide, and in some of the smaller valleys in the central portion of the state immediately east of the mountains.

"Frost.—Killing frosts or freezing temperatures may occur over the greater portion of the state in all except the summer months, although, as a rule, there are about five months practically free from destructive temperatures, and it is not unusual for the hardier plants to remain green until the middle of November or later.

"Precipitation.—The effect of topography upon the rainfall is also noticeable. The greatest precipitation occurs over that portion lying west of the continental divide and in the higher mountain regions, and the least over the northeastern plains. There is, however, at least one notable exception to this rule in a considerable district at the eastern base of the main range in the central portion with very light rainfall. About one-half of the area receives from 10 to 15 inches annually, and the remainder of the state from 15 to 25 inches. Amounts of 20 inches or more, at the lower altitudes, fall only over limited areas, principally in the northwestern portion.

Digitized by Google

Sunlight Makes Big Crops

"A characteristic of the annual precipitation that is peculiarly favorable to agriculture is the large percentage deposited during the growing season. The amount received in the months of May to August, inclusive, nearly equals that for the remaining eight months."

Rain in Growing Months.

A noticeable feature of the rainfall in Montana is the large proportion which falls in the principal growing months—April, May, June and July. East of the Rocky Mountains practically one-half of the total annual precipitation falls in these four months; nearly one-third comes in June and July alone. August and September add 15 per cent to the amount received during the summer months. In the northwestern part of the state the greater part of the precipitation occurs during the winter months. As much of the snowfall is accompanied or followed by winds, the snow tends to drift, forming deep banks which during the summer feed the streams heading in the mountains.

Both the temperature and the rainfall of the different parts of Montana are quite materially affected by the main divide of the Rocky Mountains, which crosses the state in a nearly north and south direction. On the western slopes of the divide the precipitation is heavier and the extremes of temperature less marked. The effect of the coast currents also extends over the divide for some distance, the chinooks or warm winds being felt as much as 300 miles east of the crest of the mountains.

Factors of Growth.

Recent investigations by plant pathologists indicate that important factors in crop production besides the number of heat units during the growing season, are the number of hours of sunlight during the growing season, and the altitude. Heat units during the growing season range in Montana from 3,971 at Miles City to 1,788 at Anaconda, and perhaps there is no part of the United States that has more hours of sunlight during the growing season than has Montana. A recent bulletin of the United States Department of Agriculture, referring to the effect of sunlight on crops, states that "this principle affords the clue to the fact that many plants grow most luxuriously near the northern limit of their range. The long northern day allows them to attain their maximum growth before the shorter day intervenes to check vegetative growth and start the reproductive process."

Digitized by Google

Experts assert that the more northerly the latitude and the higher the altitude the more nutriment there is in both forage and grain crops. It is for this reason that Montana oats command a premium from the plants manufacturing breakfast cereals, and it is for the same reason that a ton of native grown hay will go further and supply more nutriment than fodder shipped in from lower altitudes and more southerly latitudes.

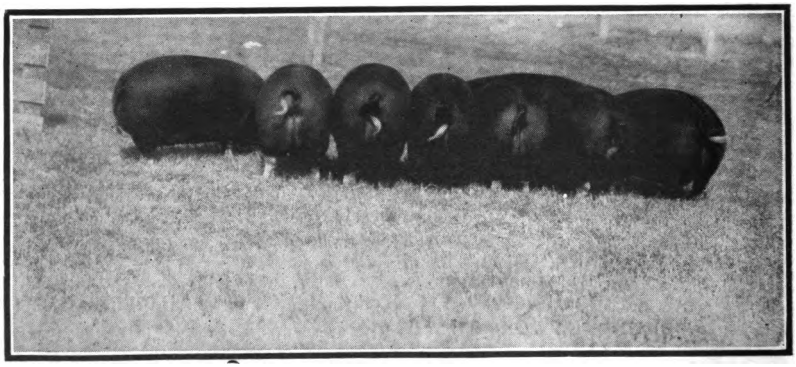
A heat unit, as the term is used in agriculture, is each degree of mean temperature above 40° F. during the period between the last killing frost in the spring and the first killing frost in the fall. Because relatively little crop growth takes place when the temperature is below 40° F., that temperature is taken as the starting point. The number of heat units each day multiplied by the number of days in the growing season will be the total number of heat units for the season in that locality. The number of heat units for the frost-free period is a more reliable index for crop purposes than is the length of the growing season.

Units at Different Points.

Below is given a table of towns in various agricultural sections of Montana with their heat units computed for the average of ten years:

Town	No. of Heat Units for Frost-Free Period
Miles City	3,971
Forsyth	3,496
Crow Agency	3,336
Glendive	3,319
Great Falls	3,163
Ekalaka	3,156
Fort Benton	3,030
Billings	2,979
Missoula	2,878
Helena	2,872
Havre	2,863
Chinook	2,851
Hamilton	2,844
Kalispell	2,634
Plains	2,496
Lewistown	2,152
Dillon	2,092
Virginia City	2,053
Bozeman	1,961
Anaconda	1,788

A United States weather bureau has long been maintained in Helena and the climatic conditions of the state have been well charted by the weather officials, who have kindly furnished the tables and maps shown in this chapter. A prospective settler may study these maps with interest. They show, for instance, that in the section of the state where there is the least average annual precipitation, the greater prcentage of this precipitation falls in the crop-growing season, and that in this section there is also the longest crop-growing period, as measured by days.



Hogs Thrive In Montana

Digitized by Google

Vacationing in Montana

Refreshing Night's Sleep Guaranteed Here When All the East Swelters — Parks, Lakes, Mountains, Game and Fish Entice.

TO THE tourist or vacationist Montana offers: a refreshing night's sleep when sleep is impossible in the sweltering east, scenery ranging from magnificent mountain ranges with snow-clad, cloud-wrapped peaks, to badlands—wastes miles in extent—wonderful agricultural valleys, broad cattle and sheep ranges, shimmering lakes, large and swiftly flowing rivers, and delightfully inviting smaller streams. Montana also offers long and glorious sunshiny days, and an atmosphere that has tang to it. It offers splendid fishing (and hunting in the fall), good automobile highways and accommodations ranging from luxurious hotels to simple cabins and tents.

When all the east is a-sweltering is the time to come and realize upon the glories of Montana. The average daily temperature of the summer and fall months are sufficient indicators of Montana's delightfulness. The average for May is 50.7 degrees, June 60.2 degrees, July 65.8 degrees, August 63.7 degrees, September 54.1 degrees and October 43.3 degrees. The visitor to the mountainous districts of the state is guaranteed a refreshing night's sleep, under blankets, every night of the summer.

Many Summer Homes.

While tourists were originally attracted to Montana by the varied wonders and beauties of the two great national parks—the Yellowstone and the Glacier—many were lured to return by charms found outside the parks, and have built beautiful summer homes and hunting lodges where they spend at least a part of each season.

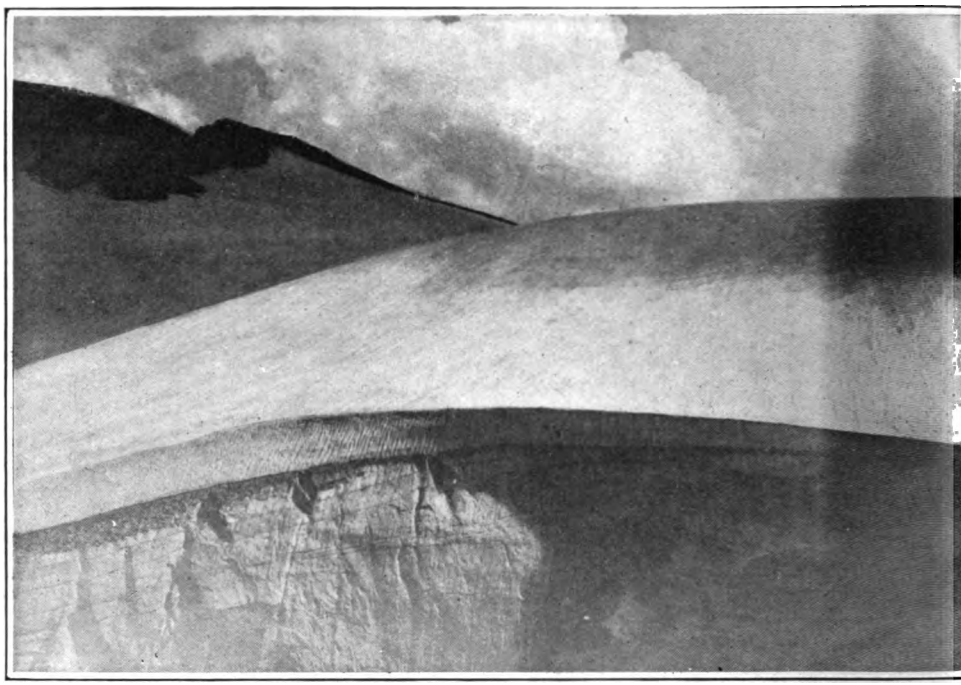
Nearly all Montana cities have provided free camping grounds for automobile tourists, and Helena, the state capital, has made a special effort to attract tourists. Three miles west of the city, in a most attractive location there is a tourist hotel with accommodations for 150 guests. Operated in connection with it is a tent camp, equipped with all modern conveniences, with accommodations for 130 guests. The resort is named the Broadwater. One of its big features, aside from its location at the intersection of a north and south, as well as an east and west, transcontinental highway, is the natatorium, the largest inclosed swimming pool under roof in the world. It is supplied from hot springs.

In many of the districts noted for hunting or fishing or their scenic attractions, small but comfortable and inexpensive hotels are found. Small cabins, warm and substantial, but usually lacking modern conveniences, are also usually available to families or automobile parties who want to spend a month or more and who like roughing it. It is not generally known that the National Forest Service will give leases on cottage sites for nominal sums. Many persons, sightseeing through the forests, have happened upon places appealing to them as desirable summer home building sites. Upon application to the forest supervisor, long-time leases have been granted, and homes erected.

Trails and Highways.

Montana has excellent rail communication with other parts of the country, being served by the Northern Pacific, the Great Northern, Chicago, Milwaukee & St. Paul, the Burlington, and the Oregon Short Line. It also has adequate highway communication, there being two main east and west automobile trails and two north and south trails. The Roosevelt Memorial Highway from Duluth is the most northerly trail. It parallels the Great Northern railway and goes directly to the Glacier Park. There is no automobile road at present from the east to the west side of the Glacier Park and automobiles must be loaded aboard cars. The Yellowstone Trail, from Plymouth Rock on the Atlantic coast to Puget Sound on the Pacific coast, parallels the Northern

Digitized by Google



Grasshopper Glacier in the Beartooth Mountains. Millions of Grasshoppers

Pacific railway through Montana. Through Montana, the National Parks Highway uses the Yellowstone Trail. Starting at Omaha, the Custer Battlefield Hiway runs northwesterly and enters Montana in Big Horn county and, continuing north, passes through Billings and Lewistown to the Glacier Park. At Billings it intersects the Yellowstone Trail running east and west. The Banff-Grand Canyon Road, which begins at the Grand Canyon National Park in Arizona, runs almost due north through Salt Lake, Pocatello and Idaho Falls and enters Montana at Yellowstone—the western entrance to the Yellowstone Park. Passing through Butte, Helena and Great Falls, it touches the eastern side of the Glacier station and then continues northward into Canada. It passes through Lethbridge, Calgary and Banff, ending at beautiful Lake Louise.

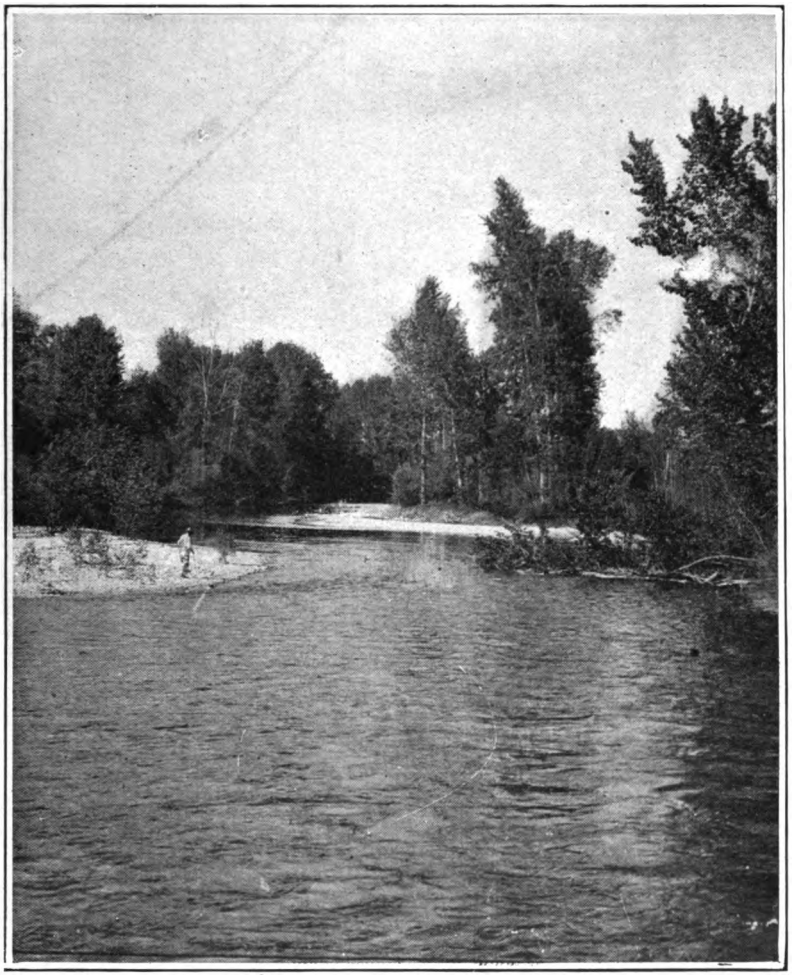
Yellowstone and Glacier Parks.

While the lakes, mountains and forests would of themselves put Montana at the head of recreation places, it is to the two greatest and largest national parks that Montana owes its best-known summer attractions. Glacier Park is wholly in Montana, while Yellowstone Park, the oldest and best-known of all the national reservations, is reached through this state. The official entrance to the park, an imposing arch, dedicated by President Roosevelt in 1903, is at Gardiner, Montana, five miles from Mammoth Hot Springs, the administrative headquarters of the great reserve. The western entrance to the park is at Yellowstone, Montana.

Yellowstone, the Wonderland.

The Yellowstone National Park is the largest and most widely celebrated of the national parks. It is a wooded wilderness of 3,348 square miles, containing geysers, rushing rivers, large lakes, waterfalls, canyons, petrified forests, mammoth boiling and hot springs, and wild animals and birds of every variety. It has fishing waters unexcelled. It has great hotels and many public camps. It has two hundred miles of excellent roads. In short, it is not only the wonderland that common report describes; it is also the ideal summer school of nature study and a fitting playground and pleasure resort of a great people.

Digitized by Google



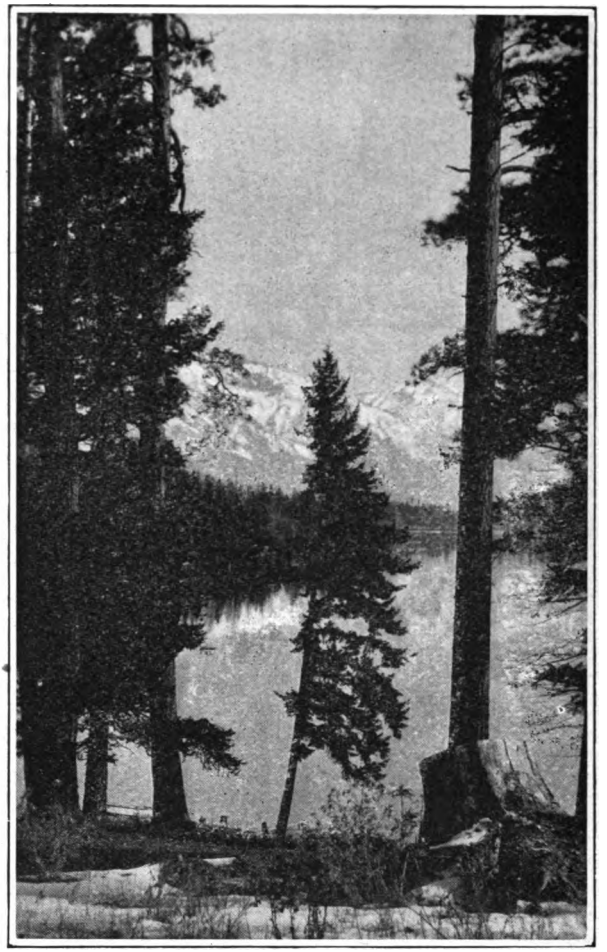
On the Beautiful Bitter Root

Yellowstone Park is by far the largest and most successful wild animal preserve in the world. Since it was established in 1872 hunting has been strictly prohibited, and elk, deer of several kinds, bear, antelope, bison, moose and bighorn mountain sheep roam the plains or mountains in large numbers. Twenty thousand elk, for instance, live in the park. Fishing is permitted in the park. The Yellowstone is a land of splendid rivers and all are trout waters of a high degree. The native trout of this region is the famous cut-throat.

How to See the Park.

There are numerous ways by which the vacationist may see Yellowstone Park. It is ideal for camping out, and many "lazy" through it, camping when night overtakes them and by day delving into hidden wonders off the main trails and roads; others secure accommodations with a camping outfit which furnishes all the camp equipment and transportation and feeds its company. Automobiles were admitted to the park within the past few years and the old stage coach, except with the camping outfit, is a thing of the past. The tourist may drive his own car subject only to the regulations made by the government. By following the hotel route the tourist is enabled by car to visit all the principal points of interest, and at the same time enjoy

Digitized by Google



On the Shores of Flathead Lake

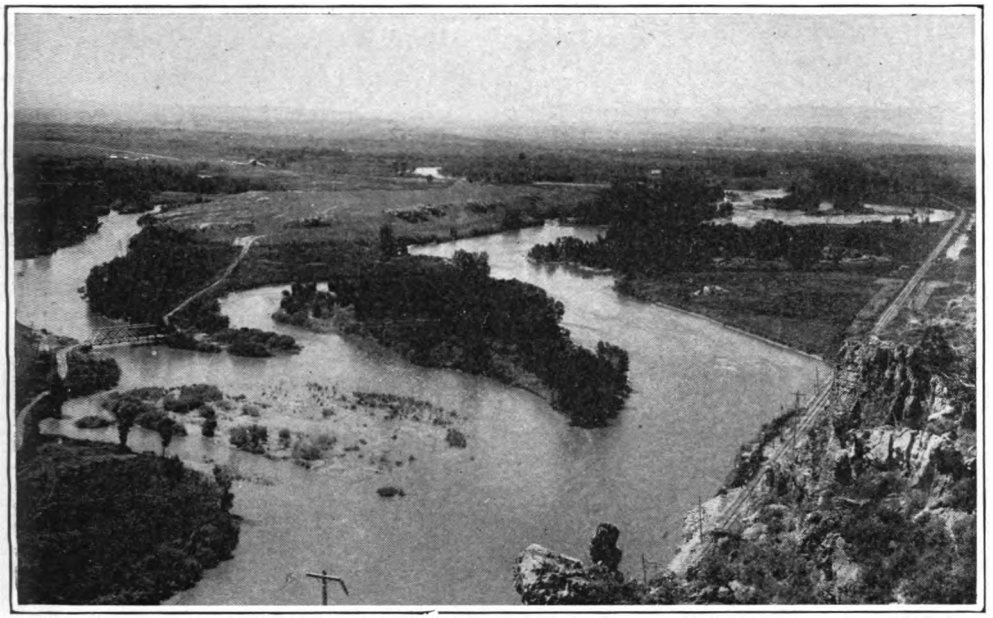
the conveniences of modern hostelries. The cost of a trip through the park is between $35 and $100, depending upon the character of the accommodations. The season is from June 15th to September 15th each year.

Glacier, Where Nature Reigns.

Glacier National Park is remarkable for its picturesquely modeled peaks, the unique quality of its mountain passes, its gigantic precipices, the romantic loveliness of its two hundred and fifty lakes and the sixty glaciers from which it derives its name. It is individual in its make-up, having rugged mountain tops, bounded by vertical walls, sometimes four thousand feet high, glaciers perched upon lofty rocky shelves, unexpected waterfalls of peculiar charm, rivers of milky glacier water, and lakes unexcelled for sheer beauty by the most celebrated of sunny Italy and snow-topped Switzerland.

This park was created by act of Congress in February, 1910. It lies in northwestern Montana, abutting the Canadian boundary. It comprises an area of 1,534 square miles, covering 915,000 acres, the second national park in size. The continental divide is enclosed within the park, in fact from one spot known as the Triple Divide, waters flow into the Pacific Ocean, Hudson Bay and Gulf of Mexico.

Digitized by Google



Where the Missouri River Has Its Source—Three Forks of the River

Lakes of Great Beauty.

The supreme glory of the park is its lakes. The world has none to surpass, perhaps few to equal them. Some are cradled among the precipices, some float ice-fields in midsummer, while some are valley gems, grown to the water's edge with dense forests. All kinds of wild animals, fish, birds and plants are found within the park. Firearms are not allowed. Fishing is permitted, however, as in the Yellowstone.

There are ten hotels in the park, two of them, Glacier Park Hotel and Many Glacier Hotel, being large hotels and the other eight are Swiss chalets. The park is reached only by the main line of the Great Northern railroad or by automobile. Trips through the park cost from $1 to $10 a day, depending upon the accommodations desired. Besides the hotels there are permanent camps ample to accommodate the tourist, and guides and packtrains are available for those who desire to explore the park, glaciers and mountain fastnesses. The season is from June 1st to October 1st each year.

Other Beauty Spots.

In addition to the two national parks there are many other places which have equal attraction. The great rolling prairies of eastern Montana, formerly the greatest "cow country," are a never ending place of fascination to the visitor. There are also many spots of beauty and excellent camping grounds in the bad lands and along the rivers.

The western part of the state has much fascination for the tourist because of its mountains and lakes. Flathead Lake, the largest fresh water lake in the country, aside from the Great Lakes, is rapidly becoming famous as a home for summer colonies. It is considered one of the most beautiful in the world. The lake has a shore line of 300 miles and large steamers operate on its waters.

The Kootenai country through Lincoln county is unexcelled for beautiful, peaceful valleys and towering picturesque mountains, covered with dense pine forests. The Blackfoot valley which follows the canyon of the Big Blackfoot river in Missoula county, between towering wooded mountains of great beauty, is exceedingly attractive as a vacation spot. Many people camp out here in the forest reserve.

Digitized by Google

Nature Is Freaky Near Ekalaka

The Missouri River Canyon.

Of equal beauty and fascination is the Missouri river canyon in Lewis and Clark county from Canyon Ferry power dam to the Holter power dam and the "Gates of the Mountains." For scenic splendor this is unexcelled. The famous Gallatin valley is rich in natural scenery also. The "Gallatin Way," leading to Yellowstone Park, is one of the most beautiful of drives.

Sanders county is noted for its wonderful trout fishing streams, great areas of virgin forests and its wealth of wild animal life. Camp sites are available at beautiful mountain lakes. The Belt and Highwood canyons, in Cascade county, the beauties of Madison county, the Lewis and Clark Cavern, the mountain drives of Jefferson county, the Bitter Root and Hell Gate valleys, the Columbia Gardens at Butte, the state fish hatcheries, the big smelters, the gigantic power dams, the lumber mills, the State Fair grounds at Helena, and other numerous places, give constant delight to the visitor.

Carbon and Park County Scenery.

Situated next to Yellowstone National Park on the north and containing much wonderful scenery are Carbon and Park counties. The Beartooth mountains and glaciers are principally in Carbon county. Granite Peak, the summit of which is 12,950 feet, is the highest point in Montana. There are a number of live glaciers in these mountains. Park county, containing the official entrance to Yellowstone Park, is full of majestic mountains, trout streams, and unexcelled vacation spots. It also has several hot springs and health resorts of importance.

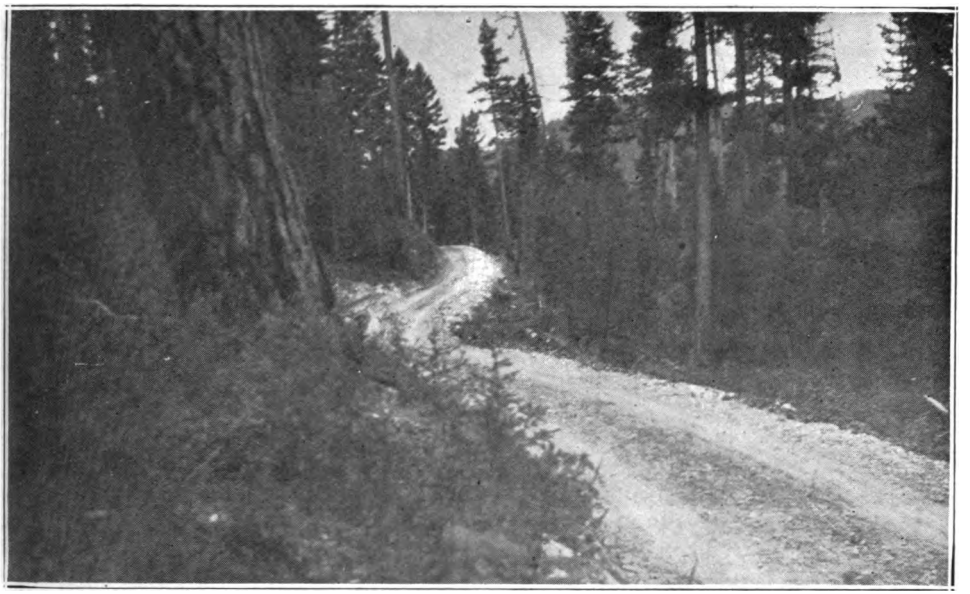
Montana is well supplied with medicinal springs and health resorts. Hundreds are treated annually or spend time at these resorts for rest and recuperation.

Hunting and Fishing.

Montana is one of the few big game regions in the United States and every fall hunters from all parts of the country come to the state to hunt elk, bear, deer, mountain lions, wolves and coyotes. The best elk hunting is found in those counties adjacent to the Yellowstone National Park, while western and northwestern Montana are the best localities for deer and bear.

Trout fishing is good in almost all of the mountain streams and Montana is doing its utmost to keep the streams well stocked. There are four state fish hatcheries, one at Anaconda on Georgetown lake, one at the Hebgen reservoir on the Madison river, one at Somers, near Flathead lake, and one near Livingston on the Yellowstone river.

Digitized by Google



On the Park-to-Park Highway

The federal government maintains a hatchery at Bozeman in Gallatin county. Upwards of 20,000,000 fry of eastern brook, black spotted, rainbow and grayling are annually sent out to restock the streams and lakes.

Good bird shooting is to be found in Montana. In the eastern part of the state are many prairie chickens and sage hens, while in the mountainous districts are grouse, fool hens and pheasants.

Wildfowl hunting is perhaps the most popular sport in Montana. In Madison county, not far from the Idaho boundary, are the Red Rock Lakes and in Phillips county, in northern Montana, is Lake Bowdoin. Both of these places are breeding grounds for ducks and besides the "natives," which afford sport early in the season, these regions are tarrying places when the "northerners" are winging their way southward. These are the best wildfowl grounds in the state, but there are many lakes and sloughs in practically every part of the state that furnish good shooting. Canadian geese, the Snow goose and the common swan are found in Montana. The following ducks are abundant in places during the duck shooting season, viz.: the Mallard, Gadwell, Widgeon, Green-winged Teal, Blue-winged Teal, Spoonbill, Canvasback, Redhead, Golden-eye, Rufflehead, American Scooter and the Pin-tail.

Predatory Animals Hunted.

There is no closed season on bear, wolves, coyotes and mountain lions, which are listed as predatory animals. Bear are much sought during the months of April, May and June when their fur is prime. They are native to all the mountainous regions of the state, but the greatest number are found in the counties adjacent to Yellowstone Park and in the northwestern portion of Montana.

Mountain lion, the natural destructive enemy of deer and young stock, are much sought by professional hunters employed by the government. These hunters also roam the forests during the winter, trapping and killing wolves and coyotes which prey upon stock. Bounties are paid for the destruction of these predatory animals. Coyotes, coyote pups and wolf pups each carry a bounty of $2.50, mountain lions $10 and full-grown wolves $15.

Game Preserves.

There are nine preserves in Montana which furnish a refuge to the wild game and serve as breeding grounds to replenish the game in the adjacent hunting areas. The preserves and their areas are as follows:

Digitized by Google

Snow Creek preserve, 300 square miles; Prior Mountain preserve, 130 square miles; Sun River preserve, 303 square miles; Gallatin preserve, 101 square miles; Snowy Mountain preserve, 170 square miles; Highwood National forest, 72 square miles; Powder River Game preserve, 1,120 square miles; Twin Buttes Game preserve, 35 square miles; Flathead Lake Bird preserve, 6.82 acres.

Discharge of firearms within the limits of these preserves is prohibited, as is also the making of any unusual noises. Besides these preserves, hunting of certain kinds of game has been prohibited in certain counties and parts of counties.

Game Laws and Open Season.

Elk limit, one each season, and only in certain counties and within certain dates designated in the game law. A special permit may be secured to kill one additional elk in Park and Gallatin counties upon payment of an additional license fee of $25.

Deer limit, one each season, October 1st to December 1st. Deer may be killed in all counties except Yellowstone, Rosebud, Custer, Powder River, Richland, Garfield, McCone, Dawson, Sheridan, Roosevelt and Valley.

Grouse, prairie chicken, fool hen, pheasant, partridge, sage hen, limit total, five birds per day. September 16th to October 1st. There is no open season for these birds in Sheridan, Roosevelt and Valley counties.

Wild ducks, limit per day, twenty birds; September 16th to December 1st. The same season applies to wild geese and brant, but the limit is eight birds per day.

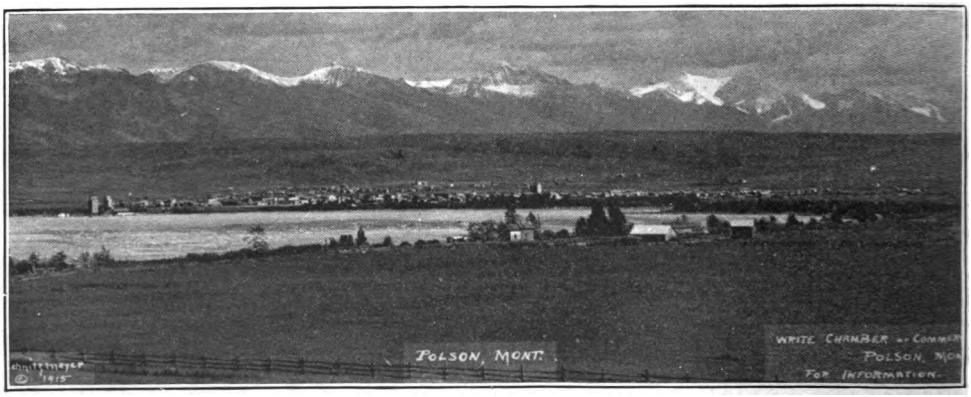
Fish may be caught at all times with hook, line and pole. The limit of catch is 25 pounds a day and no one may have in possession at any time in excess of 25 pounds, nor more than ten fish of less than six inches in length.

It is unlawful to kill at any time moose, bison, caribou, antelope, Rocky Mountain sheep, Rocky Mountain goat, swan, quail, Chinese or Hungarian pheasants, turtle doves, meadow larks or any small birds of the singing variety.

Prices of Licenses.

Resident licenses, hunting and fishing, $1.50.
Non-resident licenses, hunting and fishing, $50.
Non-resident licenses, fishing and small and feathered game hunting, $15.
Non-resident fishing licenses, $3.

Non-resident licenses must be procured from the state game warden, or his deputies, with the exception of fishing licenses, which may be obtained from a justice of the peace.

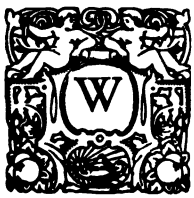


Polson, on Flathead Lake

Digitized by Google

Good Roads in Montana

Contracts Now Under Way Aggregate Almost $5,000,000 for Federal Aid Roads—Five Times as Much Money Needed for Applications Now Pending.



HILE tourists assert that no better dirt roads are to be found in the west than in Montana, this state has not been content, but, looking to more tourists and heavier travel in the future as the state and its farms are developed, has under contract this year the construction of 431.28 miles of highway under the provisions of the federal aid act. In money value the contracts aggregate $4,776,117.45. In length, the largest project is not quite 22 miles, but the importance of the work under construction cannot be gauged by mileage. In most instances the contracts provide for the rebuilding of short stretches of road through swamps or the elimination of dangerous railroad crossings or of heavy grades which have been the limiting factor of transportation. With these short stretches improved, the usefulness of the highways will be increased immeasureably. A few of the projects provide for hard surfacing through or near cities.

Would Expend Millions.

Besides the work already contracted for and under construction, the state highway commission has received applications from counties for projects whose estimated cost aggregates $15,000,000. There are still about $2,000,000 of federal aid money allotted to Montana and unexpended, which, with the money contributed by the counties, would allow for the construction of projects totaling approximately $4,200,000. Owing to the fact, however, that the bond market has been inert for many months with no immediate prospect of improvement, many counties have been unable to sell highway improvement bonds, and until the bond market does improve, Montana funds with which to match the available federal aid funds will not be had.

In addition to the federal aid projects now under construction, considerable work is being done on secondary roads out of county funds exclusively, making Montana's highway and road expenditures this year an impressive one.

Federal Aid Projects.

Federal aid projects are under construction at present in 30 Montana counties. The counties, the number of projects, the total mileage, and the total cost, are as follows:

Big Horn, one, 2.02 miles, $12,532.46. Blaine, five road and bridge, 27.44 miles, $250,019.27. Broadwater, two road and bridge, 3.4 miles, $116,222.77. Carbon, three, 20.28 miles, $216,522.64. Cascade, four, 51.25 miles, $475,527.70. Custer, one, 3.99 miles, $22,015.47. Dawson, two, 16.5 miles, $45,991. Deer Lodge, one, 9.4 miles, $333,465.28. Fergus, three, 15.84 miles, $220,019.14. Flathead, two, 6.59 miles, $51,569.83. Gallatin, four, 13.59 miles, $354,241.86. Granite, one, 7.8 miles, $147,160.99. Hill, one, 7.96 miles, $100,381.65. Jefferson, one, .7 of a mile, $31,962.68. Lewis and Clark, one, 9.08 miles, $126.001.38. Madison, one, 5.52 miles, $22,984.18. Meagher, three, 44.15 miles, $289,-945.95. Missoula, two, 20.886 miles, $190,607.38. Musselshell, two, 4.21 miles, $96,118.46. Park, two, 4.25 miles, $81,156.35. Ravalli two, 4.67 miles, $45,966.70. Rosebud, two, 8.18 miles, $62,419.21. Silver Bow, one, 9.11 miles, $335,877.10. Stillwater, one, 5.22 miles, $108,595.95. Sweet Grass, one, 105 feet, $16,586. Teton, one, 21.72 miles, $195,-258.45. Toole, one, 27.7 miles, $136,458.17. Valley, one, 1.89 miles, $16,717.71. Wibaux, four, 26.18 miles, $129, 523. 06. Yellowstone, four, 34.7 miles, $535,267.67. Total mileage, 431.28. Aggregate contracts, $4,776,117.45.

Digitized by Google

Making a Road Near Glasgow

State Has Good Roads.

But the mere fact that Montana has greatly accelerated and expanded its road-building program, does not mean that the state has not had good roads in the past. Transcontinental tourists unvaryingly give Montana the credit of having the best earth roads in the west. The older counties in the central and western portions of the state, have been executing comprehensive good road programs for a decade, and the roads in Silver Bow, Lewis and Clark, Deer Lodge, Powell, Cascade and Fergus are excellent.

Under the new scheme of things, the state will look after the main highways and the counties will devote more of their attention to the branch highways. Montana has been developing so rapidly and the demand for new roads to permit farmers to haul produce to market has been so urgent that most of the counties have been compelled to devote their energies to increasing the mileage of roads instead of the improvement of existing roads.

Transcontinental Highways.

Three fine transcontinental highways traverse Montana. The Roosevelt Memorial or Glacier Park to St. Paul Highway follows the main line of the Great Northern from St. Paul, through Grand Forks, North Dakota, into Montana and on to Glacier Park and the Pacific coast. This trail is painted red for the guidance of tourists.

The Yellowstone Trail, from Aberdeen, South Dakota, and the Red Trail, from Fargo, North Dakota, enter the state along the lines of the Chicago, Milwaukee and St. Paul and the Northern Pacific respectively. They unite near Terry, Montana, from which point they follow these railroads to Forsyth, and then follow the Northern Pacific to Livingston, where they intersect with the eastern Park to Park Highway, leading to Yellowstone Park. The Yellowstone Trail is painted yellow and the Red Trail, red, for the guidance of tourists along this route. The Yellowstone Trail continues on west from Livingston to Butte, through Missoula and on into Idaho, to Spokane, and the Pacific coast. It is often called the National Parks Highway.

Another automobile road enters Montana from the southeast, from Deadwood, South Dakota, and connects with the Yellowstone Trail at Miles City. One also enters from Wyoming, along the Chicago, Burlington and Quincy, and intersects the Yellowstone Trail at Billings. Two others, one, the National Park-to-Park Highway, enter the state from the southwest through Idaho, one from Pocatello and the other from Salt Lake City. Both of these intersect the central route of the Park-to-Park Highway, leading to the Yellowstone Park, to points east and west, and with branches northward to the Glacier Park.

Digitized by Google

Education and Religion

Russell Sage Foundation Reports Montana Has Best School System in United States — Churches and Fraternal Orders Are Well Established Here.

MONTANA has the best state school system of any state in the nation. This was the finding of the Russell Sage Foundation in a monograph published in 1920 entitled "An Index Number for State School Systems." While Montana is proud of the position accorded her school system, she has reason to be still more proud of the reasons for it, because, according to the monograph, "all these facts tend to indicate that the educational effort of a state is dependent on its aspirations and ideals in even greater measure than on its financial resources." Compared with a maximum rating of 100 per cent, divided among ten different factors, Montana achieved a rating of 75.79 per cent, the highest rating given any state. In 1910 it rated 53.50 per cent, in 1900 39.51 per cent and in 1890 36.34 per cent. The ten factors that entered into this rating, and Montana's rank on each factor, compared with other states, were as follows:

Where Montana Stands.

In per cent of school population attending school daily Montana ranks first.

In average days attended by each child of school age, Montana ranks first.

In average number of days schools were kept open Montana ranks thirty-third.

In the per cent that high school attendance was of the total attendance, Montana ranks twenty-third.

In the per cent that boys were of girls in high schools, Montana ranks fortieth.

In the average expenditure per child in average attendance, Montana ranks first.

In the average expenditure per child of school age, Montana ranks first.

In the average expenditure per teacher employed, Montana ranks sixth.

In the expenditure per pupil for purposes other than teachers' salaries, Montana ranks first.

In the expenditure per teacher employed for salaries, Montana ranks fifteenth.

Too much praise cannot be given to those who laid the foundations of the educational system and to those who since that time have struggled to have good school buildings and good teachers in all communities. Those who laid the foundation of the state had in mind, not the few people then within its borders, but the thousands that were to come after them.

Common Schools Endowed.

When Montana was admitted to the Union, the common schools received as an endowment from the national government one-eighteenth of all the public land in the state, a total grant of 5,233,920 acres. This endowment is administered for the schools of the state by the state board of land commissioners and under the law none of the land can be sold for less than ten dollars an acre. Up to the present time 977,134 acres have been sold, yielding the large sum of $17,518,965 to the permanent school fund.

The income from these millions is sufficient to give each school district, for every child of school age, an annual apportionment out of this interest fund. The apportionment has grown annually, being $3 per capita in 1911, while in 1919 it was $6. The total income for distribution from the permanent school fund in 1919 was $969,756, for the 161,626 school children in Montana.

Digitized by Google

Hill County Rural Graded School

Free Tuition in High Schools.

The various school districts also levy a tax for the support of the schools in addition to the state apportionment. The minimum for this tax is four mills and the maximum ten mills, unless by special vote of the freeholders of the district the assessment is raised. In case this special election is called, the voters may assess themselves any amount desired.

An additional tax for the support of the secondary schools is levied over the whole county and is distributed by the county superintendent among the various accredited high schools of the county according to the total daily attendance of the pupils. A student, resident in the county, may attend any of the high schools without tuition charge.

The schools of the state, rural, elementary and secondary, are under the supervision of the State Department of Public Instruction. In this department there is the state superintendent, a deputy, a state high school inspector and two rural school inspectors, supervising the rural schools, one in the eastern and one in the western half of the state.

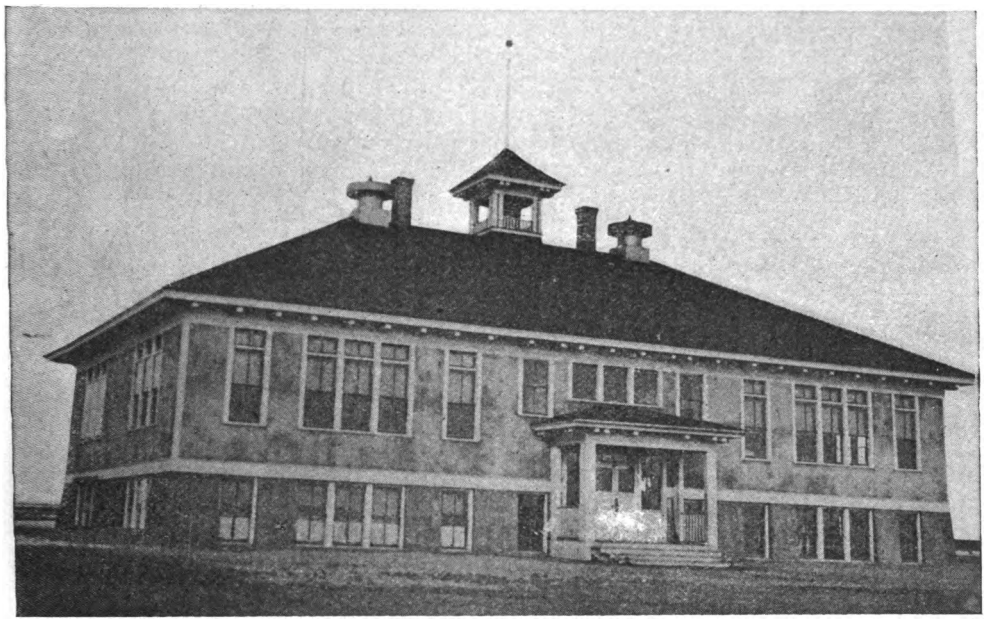
State Board of Education.

The state schools and state institutions of higher learning are under the supervision of the State Board of Education, composed of prominent men and leading educators from different parts of Montana. The four institutions composing the University of Montana—the State University at Missoula, the State College of Agriculture and Mechanic Arts at Bozeman, the State School of Mines at Butte, and the State Normal College at Dillon—as well as the State School for Deaf, Dumb and Feeble-minded, at Boulder; the State Industrial School, at Miles City, and the State Orphans' Home, at Twin Bridges, all come under the jurisdiction of the state board. Each of these institutions has a local administrative board to carry on its work, and the University of Montana has a chancellor, located at Helena, to supervise the work of the four schools of which it is composed.

Rural Schools Improving.

The rural schools are receiving much attention from the state department. Every possible effort is made to better the conditions by a campaign of enlightenment among the people for better buildings, longer terms, better trained teachers with higher salaries, playground apparatus, medical inspection, consolidation where advisable and for community centers.

Digitized by Google



Consolidated School at Outlook

A state course of study for rural schools is used to help the teachers to better perform their work. The two rural school inspectors are constantly in the field advising and aiding in the betterment of conditions. Boys' and girls' clubs have been organized in nearly every school for the purpose of interesting the pupils in growing potatoes and corn, raising pigs and calves, or canning vegetables, and baking bread. There are many parent-teacher associations in the different towns, to interest the parents in the welfare of the children. A state law requires each school to spend a certain amount for library books each year.

Likewise the elementary grade work in the towns and villages is receiving much attention. A state course of study is provided, with work in vocational subjects introduced, while in many places fine gymnasiums have been built, modern buildings constructed and playground apparatus installed.

Accredited High Schools.

The state is doing much in promoting secondary education. There are 153 accredited high schools and nine academies under the supervision of the state department. Under a plan now in operation the smaller community is benefitted through the accrediting of the work of the school for from one to four years. Many of the smaller towns can thus furnish accredited high school work and the parents will not need to send the children away from home. Of the 166 accredited high schools, 94 are four year, 18 three year, 31 two year and 20 one year high schools. Eighteen of the 94 are county high schools, maintained by a county high school tax levied over the whole county, while 66 are city and town high schools, or large consolidated rural schools.

Many of the Montana high schools are equal to any in the country, with beautiful grounds, fine modern buildings, gymnasiums, equipment for industrial arts and science work, libraries and well-trained teachers.

Twenty high schools in Montana have availed themselves of the provision of a law authorizing the installation of normal training departments to fit pupils to become teachers in the rural schools. County high schools of Flathead, Dawson, Lincoln, Park, Fergus, Carbon, Gallatin, Teton, Custer, Wibaux and Granite counties have installed such courses and so have the high schools of Belt, Columbus, Chinook, Glasgow, Conrad, Havre, Hamilton, Roundup and Sidney.

Digitized by Google

Under the provisions of the federal Smith-Hughes act, courses in agriculture are given in the county high schools of Flathead, Fergus, Gallatin, Dawson, Wibaux, Jefferson, Powell, the Belt and the Harlowton district high schools. Courses in trade and industrial education are given in the Flathead and Fergus county high schools, and courses in home economics under this law in the Gallatin, Fergus and Wibaux county high schools.

Higher Institutions of Learning.

Montana has seven institutions providing for higher education. Almost any line of work desired can be taken at one of these schools. They are doing standard college work, with their degrees recognized in all parts of the country.

The State University at Missoula is the largest school in the state. It offers work in the following schools: liberal arts, forestry, journalism, law, music, education, pharmacy, and business administration.

The State College of Agriculture and Mechanic Arts, at Bozeman, aims to fit the students for the more practical careers of life. The school is well organized and specializes in agriculture, engineering, domestic arts, animal husbandry, dairying, etc.

The State Normal College, at Dillon, prepares teachers for both rural schools and elementary grades. It has a large enrollment, a strong faculty, and is doing excellent work in its particular field.

The State School of Mines, at Butte, offers work in mining and metallurgy. Situated where access may be had to the mines of Butte, it has an excellent opportunity for its special subject.

Other Colleges Growing Rapidly.

Montana Wesleyan College, at Helena, is a denominational college under the auspices of the Methodist Episcopal church. It is a standard college, granting degrees in the liberal arts course, with schools of education, music and commerce affiliated. A new dormitory for girls has been erected the past year.

Billings Polytechnic Institute, located at Billings, in southern Montana, does work in both the liberal arts course and in the more practical courses. It has a farm and tractor school in connection with the institution. Emphasis is also placed on musical instruction, a new conservatory being built recently. Other new buildings are in process of construction.

Mount St. Charles College, at Helena, is under the jurisdiction of the Catholic church. It is exclusively for boys, in both academy and college work. It offers work in the liberal arts course and has a strong course in the academy. A new gymnasium was erected on the campus recently and a dormitory is now being built.

Other Schools and Academies.

There is a Deaconess school at Helena under the direction of the Methodist church, where younger children are given a home and an elementary education. The Catholic church has academies for girls at Helena, Missoula and Great Falls and a high school for boys at Helena and Butte. They also have a number of parochial schools throughout the state.

In all the larger cities there are business colleges and other private schools to fit individuals for immediate work in some particular line.

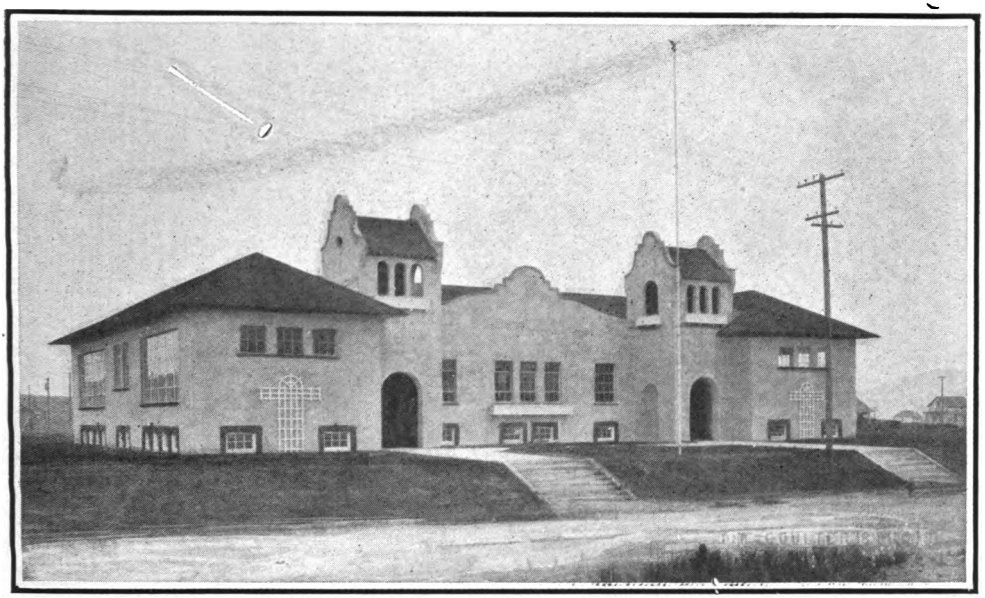
A number of progressive features have been instituted in Montana schools. Free text-books are furnished in all the public schools of the state. Domestic science, industrial training, physical training, normal work and work in agriculture have been made subjects in the curriculum and are meeting with much favor.

An added feature of much service to the people of the state is the experiment station and extension service of the State College. Thse institutions render the schools much service. In connection with this work there are short courses given at the college for farmers and the farmer boys and other courses in the domestic arts for the farmers' wives and daughters. The short courses are becoming popular and beneficial, especially to the farmer boy who cannot attend the high schools.

Montana has a state teachers' association which holds an annual meeting to discuss the affairs of the schools of the state and their needs. This seeks to benefit the work by co-operation and an exchange of ideas.

There is a state pension law for teachers which aims to take care of those in the service when they reach the age when they should retire. The teachers who wish to receive this benefit must pay one dollar a month into the state pension fund. The

Digitized by Google



A Modern School Building at Lewistown

amount now in the fund is $132,946. This includes the permanent investment fund, the amount of which is invested and the interest upon it used for teachers' benefits. At the present time there are 34 teachers in the state drawing pensions.

Churches and Fraternal Orders.

Prospective settlers often ask concerning the opportunities in Montana to affiliate with religious and fraternal bodies of their choice. Upon this point they need have no hesitation about coming to the state for they will find here churches of practically all denominations, fraternal orders well established, charitable and corrective institutions and reform societies that have done much for the welfare of the state. They will find plenty of opportunity to affiliate with these organizations and to engage in the kind of work desired. The church history of Montana dates back to an early day. Even before the goldseeker came to the state the Jesuit missionary had been here doing work among the Indians. Methodist missionaries came soon after, to be followed by missionaries from the Baptist, Episcopalian, Presbyterian and Congregational denominations.

Many Churches Established.

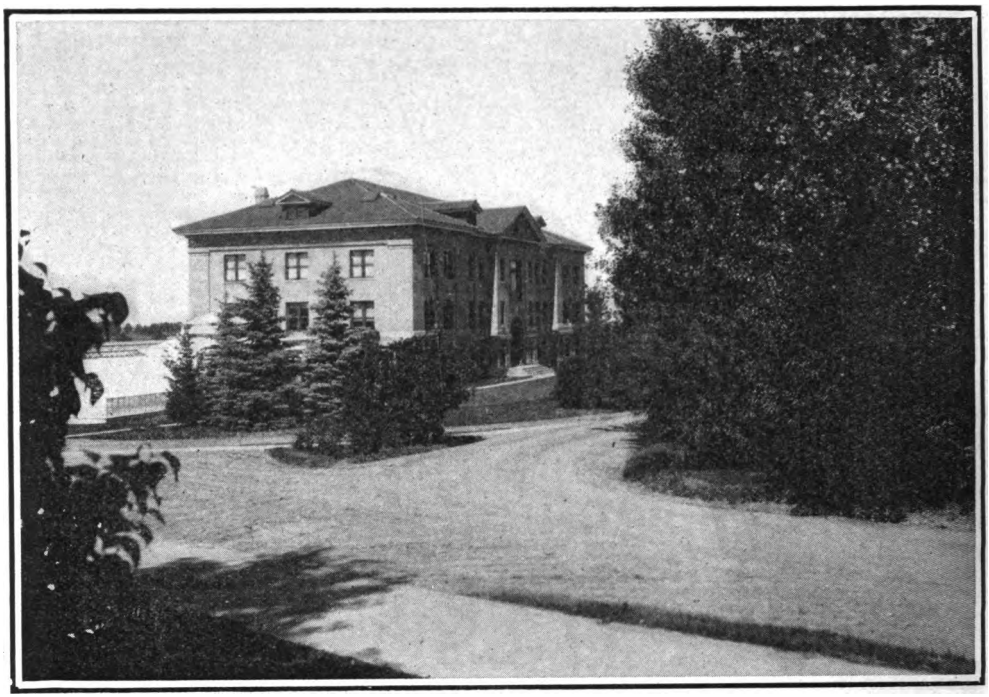
With the settlement of the state and the coming of people from the eastern and middle states, churches were established in many localities and have continued to grow to the present time. In the larger cities today there are fine edifices and well trained ministers with efficient organizations. In the smaller towns and villages and in many country communities there are church buildings; in fact, nearly all of the denominations have branches in all parts of the state. The different churches have built splendid colleges, schools and hospitals in many towns.

Various Denominations.

The Catholics have a large membership in Montana and a strong organization. They have two resident bishops, one at Helena and one at Great Falls. They have a college for boys at Helena, academies for girls at Great Falls, Helena and Missoula, and high schools, parochial schools and a number of orphanages and hospitals in different parts of the state.

The Methodists have branches in nearly all the towns. The state is divided into two districts under a district superintendent. They have a resident bishop at Helena. They maintain a college and academy at Helena, a Deaconess school at Helena, orphanage and several Deaconess hospitals throughout the state. The centenary movement plans to use $600,000 in Montana in the next five years to further the work here.

Digitized by Google



Agricultural College Hall, State College, Bozeman

The Episcopal church has a resident bishop at Helena, who supervises the work in Montana. Churches with well-trained rectors are found in all the larger cities, while the smaller villages are visited for services by rectors on circuits. They have several hospitals and other beneficient institutions in various places.

The Presbyterian, Baptist, Congregational, Christian and Lutheran churches all have large memberships in Montana and well educated and trained leaders. In some of the smaller charges one minister supplies several places while in the larger cities the organizations are housed in fine large buildings, similar to the church buildings of the middle and eastern states. Other smaller denominations have organizations in the different communities, although not as widely spread as the organizations with the larger memberships.

The Young Men's and the Young Women's Christian Associations are well organized in the state and in all of the larger cities maintain large, modern buildings. The headquarters of the work is located at Billings where the state secretary of the Y. M. C. A. and his several assistants are located. From here they direct the affairs of the association in the cities and counties and in the colleges.

Fraternal Organizations.

Every fraternal organization of prominence is represented by local organizations in the various towns and cities of Montana. The Masonic order was probably the first to organize in Montana and today that order has a magnificent temple in the Capital City and others in the different cities. It maintains a home for aged members and an exceedingly large membership is enrolled in the various lodges. The Odd Fellows organized early in Montana, the order has grown with the state, and is today one of prominence. It also has a home for aged members. The same story of growth may be told of the Knights of Columbus and all the other leading fraternal and benefcial organizations.

Besides the various charitable institutions and hospitals in charge of the church organizations there are various institutions under the care of the state. The State Industrial School at Miles City, and the State School for Deaf, Dumb and Feeble-Minded at Boulder, are both doing excellent work. A State Vocational School for Girls was recently established at Helena. There is also a State Bureau of Child and Animal Protection and a State Board of Charities and Reform.

Digitized by Google

Rural Aid Organizations

Many Laws Placed on the Books to Make It Easier for Newcomers to Succeed—State Farm Loans, Hail Insurance—Many Farm Organizations.

HILE Montana has never adopted a policy of paternalism making it responsible for the success or failure of new citizens, many organizations have developed in the state and many laws have been passed that make the lot of the newcomer much easier than it was in the old days. There is more co-operation, interest rates are lower, expert advice is always attainable to assist in the solution of problems new to the settler, recreation is provided. The community has tackled problems that a decade ago were left to the initiative of the individual settler. Title to a good piece of land does not make of the owner a successful farmer. Working capital is necessary, to obtain which, most farmers in the beginning are obliged to mortgage the farm. Interest rates in Montana formerly averaged around 10 per cent from the farm loan companies, but there has been a material drop in rates since the state of Montana, through the state land board, and the federal land bank of Spokane through the local national farm loan organizations, began doing business.

Farm Loan Associations.

The annual report for November 30, 1919, of the federal land bank of Spokane covering the twelfth district in which Montana is included, showed there had been 133 national farm loan associations chartered in Montana. Many others were in process of organization. The largest and most active associations are at Kalispell, Billings and Bozeman. There have been completed in full 4,468 first mortgage loans in Montana in sums aggregating $10,996,540.

"On the loans made by the Federal Land Bank the farms of the borrowers were appraised without charge by the bank," says a statement issued by that institution; "the abstracts of title were examined and titles cured where necessary without charge by the land bank for such services; and all work incidental to the completion of loans and retirement of the former mortgages was attended to without charge.

"The farmers received loans, some bearing interest at 5 per cent per annum and others at 5½ per cent; all payable on amortization plan on terms under which installments equivalent to 6 per cent in some cases, and 6½ per cent in some other cases, would retire both principal and interest on the loans in the amortization period.

"The mortgages never come due; they need no renewals; but are gradually retired as stated."

State Farm Loan Act.

While there has been no fanfare of trumpets calling attention to the operation of the Montana farm loan act, considering the sums available for lending and the time the law has been in operation, the Montana act has been highly successful. The annual report for November 30, 1919, of the register of the state land office showed that 1,750 loans to farmers had been made in sums aggregating $3,252,940. The terms and conditions upon which the state makes farm loans are set forth as follows:

"Loans will be made only upon good improved patented farm lands. Loans cannot be made upon U. S. Land Office Final Certificates.

"Applicants for loans are required to furnish an abstract of title covering the land offered as security for the proposed loan, which abstract must be brought down to date and must show patent from the United States. After the abstract is approved by the attorney general the state land agent will examine and appraise the land with-

Digitized by Google

A Montana Wheat Field

out cost to the applicant, and such appraisal will determine the amount of money that may be loaned. A mortgage and coupon note shall be executed by applicant and the mortgage shall be recorded and the abstract shall be continued to show the same and shall be returned to the register of state lands before any money is turned over to the applicant. The abstract shall be kept by the register until the note is fully paid. The expense of furnishing the original abstract and the continuation of same as well as all recording fees shall be paid by the applicant. (No fee is charged for recording mortgages to the state.)

"No state farm loan shall be made for less than $500 nor for more than $10,000 to any person or corporation, nor for more than two-fifths of the appraised value of the land offered as security for the proposed loan. Improvements cannot be considered in fixing the maximum amount of money the state can loan. Loans will not be made for less than three years nor for more than ten years. All loans shall be secured by first mortgages and shall bear interest at the rate of 6 per cent per annum, payable annually, at the office of the register of state lands. All notes provide that 10 per cent of the principal or any multiple thereof may be paid three years from date, or at any interest paying date thereafter. The proceeds received from the loan may be used to pay present incumbrances (if any) against the land securing the state loan."

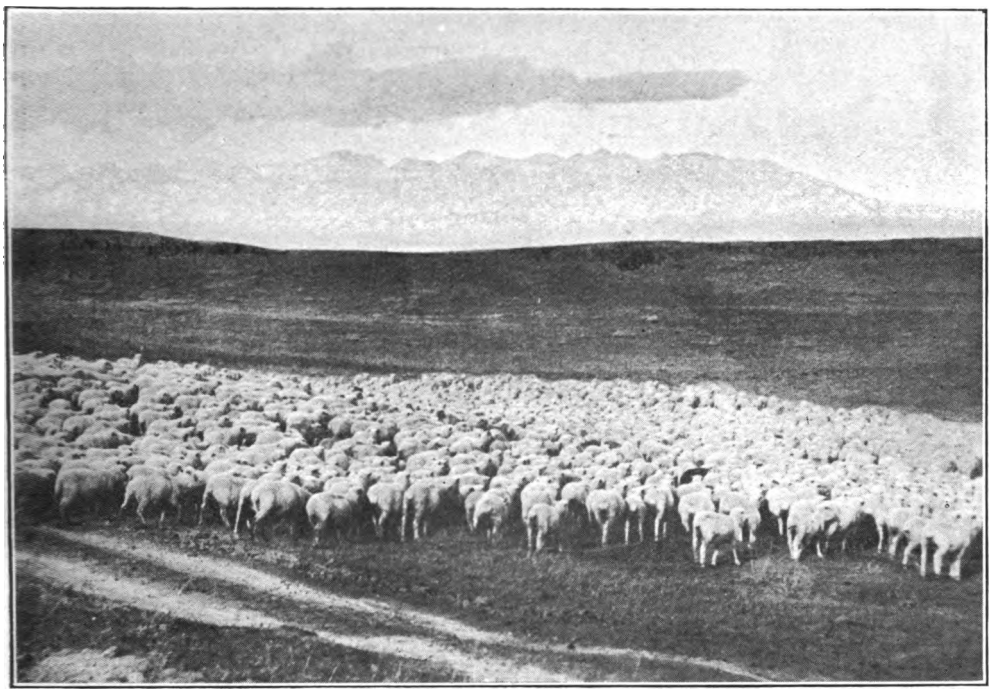
Farmers Are Organized.

There are a number of farm organizations in Montana which have been agencies of progress in agricultural development along the lines of production, scientific and economic distribution and community social uplift. Foremost are the farm bureaus organized under the supervision of the extension department of the United States Department of Agriculture. They have been a most potent influence for public good during the short time they have been in operation in the state and have a large membership.

With the same sincerity and zeal the Farmers' Union, a branch of the big national organization, is working in many communities. Likewise the Grange has been in the state for some time working for the uplift and betterment of rural life. Both of these organizations are doing much to develop the social side of farm life.

The American Society of Equity has been active in Montana. A large number of co-operative enterprises have been started as a consequenc.

Digitized by Google



Sheep Raising a Leading Industry

Farm Burau Organizations.

There are 26 farm bureau organizations in Montana with a total membership December 1, 1919, of 11,776, an increase of 42 per cent over the preceding year. Eleven other counties are seeking farm organizations. Counties having farm bureaus are Blaine, Broadwater, Cascade, Chouteau, Custer, Dawson, Fergus, Flathead, Hill, Lewis and Clark, Missoula, Musselshell, Phillips, Prairie, Ravalli, Richland, Roosevelt, Rosebud, Sanders, Sheridan, Stillwater, Teton, Toole, Valley and Yellowstone. Included in the farm bureau activities were crop projects of various kinds, a better livestock campaign, soils, fertilizers and fertility projects, and projects relating to farm homes and farm business. Nearly half a million pounds of poison bait was distributed at cost to farmers in the rodent control work. Eighteen irrigation systems were planned contemplating the reclamation of 422,070 acres.

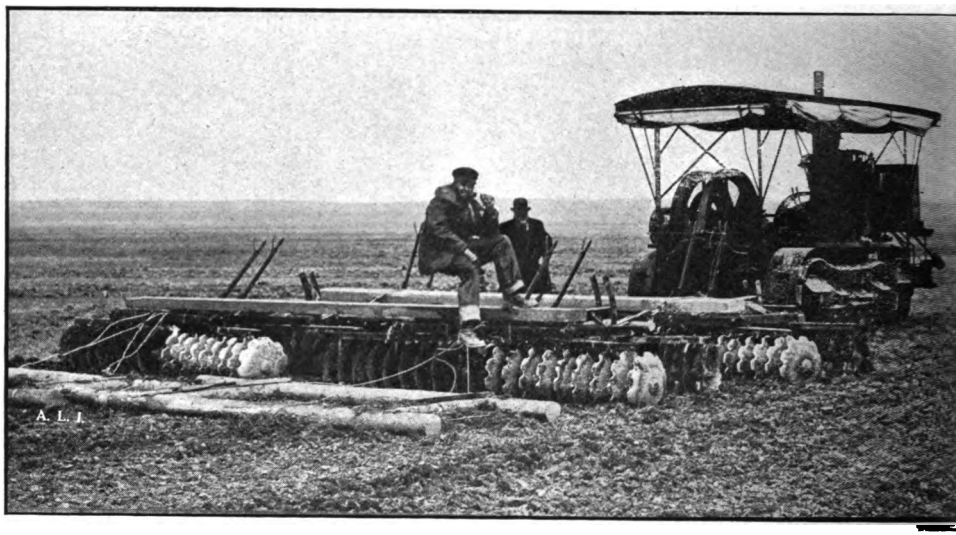
The boys' and girls' club work movement is well launched in Montana. There have been 476 clubs organized with a total enrollment of 5,236 members. The value of the product of these clubs last year was $49,351.76 and the cost of production $19,401.79, leaving a net profit to the members of $29,850.

Ten Montana counties employ home demonstration agents. Among other matters that they have taken up in rural communities are clothing, foods and canning, poultry raising, health, home conveniences, child welfare, household accounting and rural social life and recreation.

Shipping Associations.

For the benefit of the small growers, livestock shipping associations have been organized in many of the counties. These have been incorporated under the state laws and in most instances a manager hired and a board of directors elected, and through them farmers with from two to six or eight head of cattle to market have been enabled to secure the same returns that the larger shipper could obtain. The farm bureaus have also aided the western Montana fruit growers to market their products direct to farmers in the eastern part of the state, the service being beneficial to both shippers and buyers. It has been the general plan, however, in all county farm bureau organizations for the bureau not to deal in any business activities but to render assistance and be instrumental in assisting groups of farmers to organize such subsidiary associations as necessary satisfactorily to conduct their marketing associations.

Digitized by Google



Spring Work in Big Horn County

State Hail Insurance.

Montana is one of the comparatively few states that offers state hail insurance to farmers. During the three years the law has been in operation losses aggregating $502,304.28 have been paid. Application for insurance is made direct to the county assessor and the premium is collected by the county treasurer at the same time other taxes are collected. The law provides that applications for hail insurance will be accepted on wheat, oats, flax, barley, rye, buckwheat, corn, speltz, timothy, clover, alfalfa, peas and beans. The cost of insurance varies according to the severity of the losses. The maximum that may be levied is 10 per cent of the amount of the insurance. The maximum insurance on grain is $12 an acre and on hay $5 an acre. The maximum premium therefore would be $1.20 on grain and $.50 on hay.

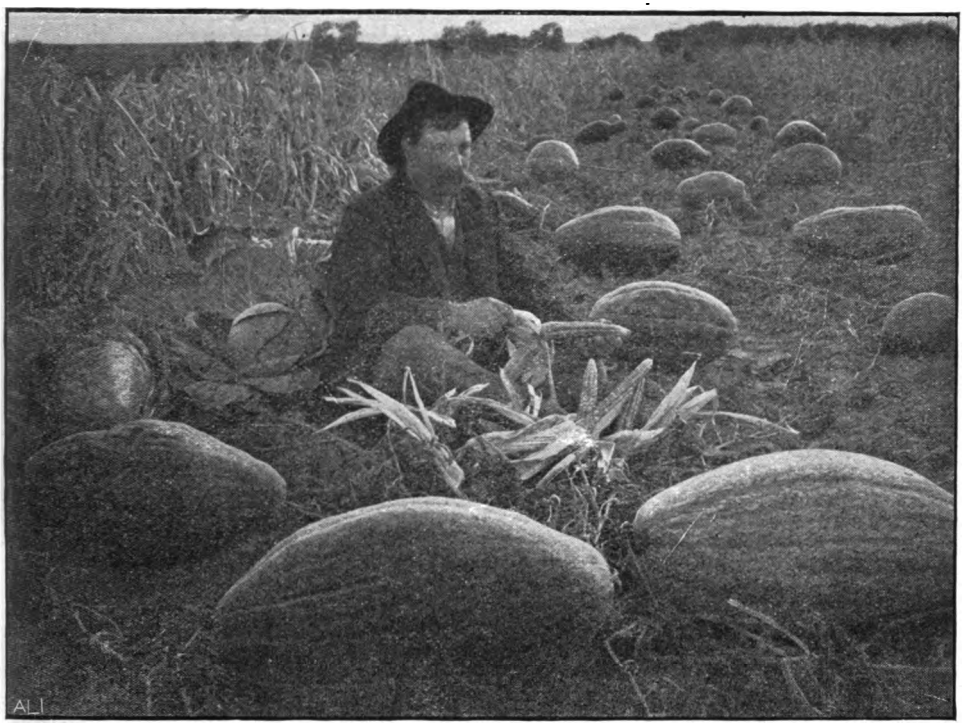
More attention is being paid to health matters in Montana than ever before. There are 43 public health and school nurses employed in the state of whom 20 are working in rural communities, and there is every reason to believe that before long every county will have one or more such nurses. Much attention has been devoted by the state board of health to rural health problems and bulletins dealing with various phases have been issued. One of the most important of these is entitled "Farm Water Supplies."

Custom Grinding Supervised.

Flour mills doing business in Montana are under the supervision of the Montana Trade Commission which has made an order that wheat must be graded in compliance with the federal grade standard; dockage must be determined by testing an accurately weighed sample of wheat with testing sieves of approved federal standard, and the rates for custom grinding, under which a farmer can exchange his wheat for flour and mill feeds, have been fixed so that mills cannot charge more. In exchange for each bushel of 60 pounds of clean wheat, flour and mill feed must be delivered in quantities ranging from 42 pounds of flour and 17 pounds of mill feed for wheat testing 58 pounds or more to the bushel, to 37 pounds of flour and 22 pounds of mill feed for wheat testing 51 pounds. The owner may designate the apportionment of the flour and mill feed. For this grinding, mills of a capacity of 25 barrels or less may charge not more than 35 cents a bushel; over 25 barrels and under 100 barrels 30 cents a bushel, and over 100 barrels 25 cents a bushel. Sacks are to be provided for by the miller at the expense of the owner at the current market value per thousand.

All grain elevators and all dealers handling grain and hay in carload lots are under the supervision of the Montana Grain Grading, Inspection and Warehousing Commission. They are licensed and under bonds so that all grain growers are fully protected should any firms or individuals be guilty of unfair practices.

Digitized by Google



Some Non-Irrigated Fergus County Crops

The state grain laboratory, at the Montana Agricultural College at Bozeman, tests seed free of charge for all farmers who send in samples. The tests are for both germination and purity, so the planter, if he cares to take the trouble, can make absolutely sure of the quality of his seeds.

Many bulletins, dealing with various phases of farming and livestock growing in Montana, have been issued by the extension service of the Agricultural College at Bozeman, and will be furnished without charge upon request. The state veterinarian, at Helena, furnishes blackleg vaccine, free of charge, to Montana farmers and stockmen.

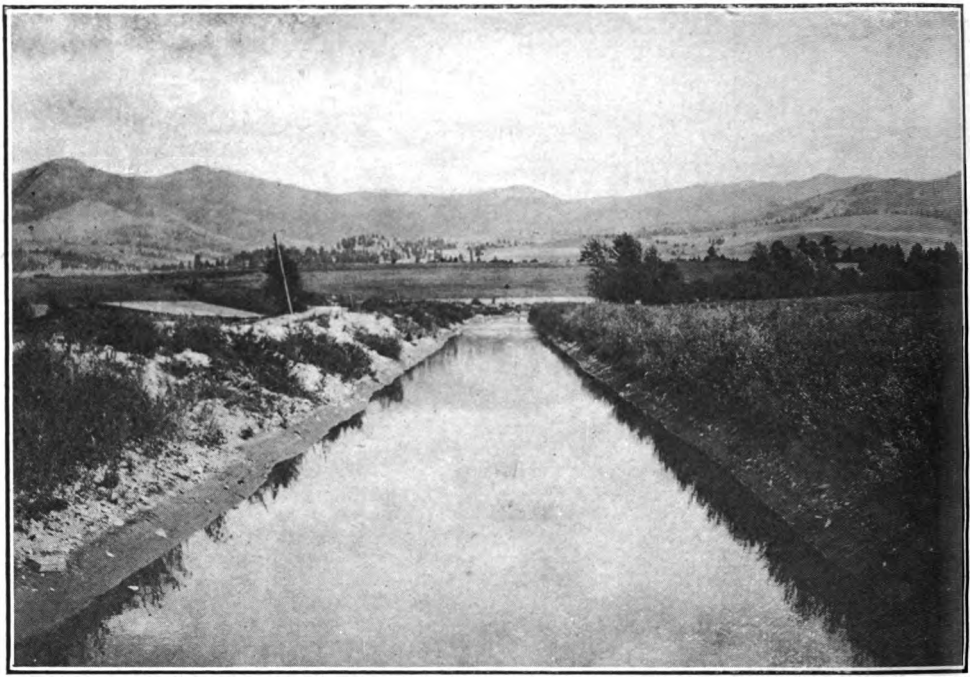
Montana has been made into a separate district by the Federal Bureau of Animal Industry and a corps of inspectors is maintained to fight animal diseases in Montana and to assist livestock growers. The federal inspectors co-operate with the state veterinarian's force.

Country Life Made Attractive.

There are progressive farmer clubs, boys' and girls' clubs, women's clubs, civic leagues and Chautauquas in the smaller towns and villages to promote community life. Livestock shows and farmers' picnics help to make country life attractive. All of these organizations are doing a good deal to promote road improvement and Montana boasts some of the best rural highways in the country. Rural mail delivery and rural telephone lines are found in many sections.

The many local fairs and the great state fair, held each year, do much for the encouragement of farming by a comparison of products and livestock. Good premiums are offered for all kinds of farm produce, livestock and other exhibits. The Montana State Fair, held each year at Helena, is a great state-wide exhibition and an event of

Digitized by Google



Along the Irrigation Canal

much educational value. The farmer gathers inspiration and ideals at the fair which sends him home with a firm resolution to produce better livestock and better yields of grain. It is recognized as one of the leading agricultural shows in the west.

Laws Protect People.

Montana has enacted a number of laws for the protection of the people. The rates of all public utilities and of common carriers are regulated by a railroad and public service commission, elected by the people; a "blue sky" law protects investors from fraudulent promoters; the eight-hour day is general in the mines, about the smelters, on all public and practically all private work. Practically all women employes are given an eight-hour day by state law; an efficiently administered workmen's compensation law is in successful operation; and wages are high and living conditions improving.

There is a good deal of interest in reform legislation. The women enjoy equal suffrage, the state abolished the saloon on December 31, 1918, and laws have suppressed gambling of all kinds. The state has also ratified the federal prohibition amendment and that extending suffrage to women. The difect primary law and the initiative and referendum have been in operation in Montana for several years.

A Wholesome Environment.

To supply a wholesome environment and provide for the uplift and education of the people a number of worthy institutions are encouraged. Schools, academies and colleges, churches, Y. M. and Y. W. C. A. organizations, good newspapers, libraries, Chautauquas, civic leagues, women's clubs, parent-teacher associations, charitable societies and fraternal orders are found in all parts of the state.

Montana is a pleasant place to live. Her people are among the most virile, hardy, sincere and genuine to be found anywhere. She is building strong and stable for the future. For liberality, generosity, genuine thrift and well-being, Montanans are not to be excelled.

Digitized by Google

The Merchant in Montana

Itinerant Fur Traders a Century Ago Precursors of the 10,891 Dealers in Business Here at Present—Nearly 600 Rated From $200,000 to $1,000,000 Greatly Diversified Field Open.

UCCESS has crowned the efforts of a very large per cent of those who have engaged in mercantile business in Montana. When a miner strikes "pay dirt" the fact is heralded far and wide, and when a farmer threshes sixty bushels to the acre of No. 1 hard northern wheat, the news spreads on the wings of the wind. A merchant's experience is less spectacular, but Montana has men of the commercial world who have achieved reasonable wealth and fame, and the history of the state shows that many of the present-day substantial men have made their all in legitimate merchandising in this state. The first merchants of the state were the itinerant fur traders who came up the Missouri and the Columbia rivers over a hundred years ago and swapped rum and trinkets and powder with the Indians for the furs of the beaver and the hides of the buffalo. Fabulous were the profits of these men, and their successes led to the formation of the great fur trading companies that played such a large part in the ultimate settlement of the great Northwest. Among those that operated in Montana were the Missouri Fur Company, the Rocky Mountain Fur Company, the American Fur Company, the Hudson Bay Company and the Northern Company.

The First Merchants.

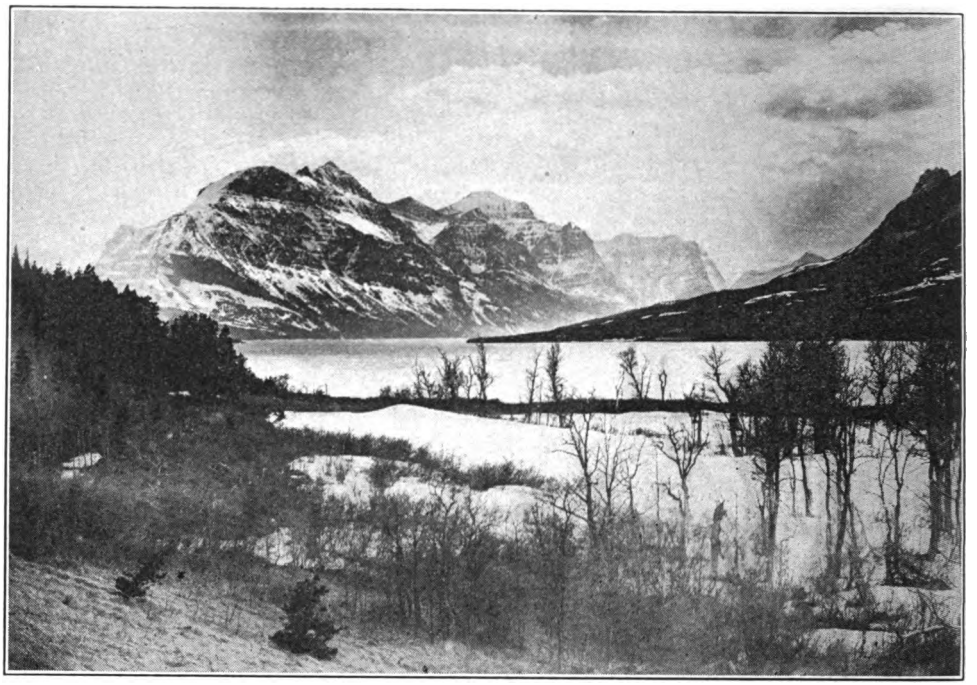
The first regular trading post to be established in what is now Montana was the post of Manuel Lisa, who in 1807 built a stockaded trading post near the mouth of the Big Horn river, some 30 or 40 miles west of the present city of Forsyth. The following year he established another post near the present city of Three Forks, but neither of these proved permanent. Temporary posts also were established at a very early date on the Clark's Fork of the Columbia river near the present city of Thompson Falls, and on Post creek, some miles south of the present city of Polson, but the first permanent establishment was Fort Union, just west of the Montana-Dakota state line, near the mouth of the Yellowstone river. This post was founded by the American Fur Company, 1828-9, and its success led to the establishment of Fort McKenzie, on the Marias river in 1832, Fort Lewis 1835 and Fort Benton 1846 on the Missouri, Fort Owen 1850 near the present city of Stevensville, Fort Andrew on the Musselshell river 1862, Fort Gilpin on the Milk river in 1863, and a few others even less permanent.

In most of these cases, however, the settlement was confined to the necessary help within the stockade, and the only merchandising was that carried on by the fur trading companies with the Indians. Most of the posts netted their owners vast profits. White settlers were few, and Fort Benton was the only point that developed into a permanent city as the direct result of the early establishment of a trading post. Here it was, however, that the earliest commercial activities of the state centered, and its excellent location on the Missouri river was as great a factor in its permanence as the building of the old adobe fort.

Regular Stores Opened.

Between 1850 and 1860 a few straggling emigrants came to Montana, most of them seeking gold, and following the discovery of the yellow metal in paying quantities in 1862, there sprang up the active mining camps of Bannock, Virginia City, and Helena, and here the first regular stores were opened to supply the needs of the gold seekers. Between 1860 and 1870 there were established a number of merchandising concerns that are still in business, and that represent, through years of honest industry and business efficiency, some of the most substantial commercial enterprises there are now in Montana.

Digitized by Google



Upper St. Mary's Glacier

The oldest authentic record of the merchants of Montana is preserved in the books of R. G. Dun & Company, who first compiled and published a list of Montana merchants in 1867—just four years after Alder Gulch was discovered. While this list was not perfect, owing to the great difficulties of obtaining accurate information in those days, it is a most valuable one, and contains the following towns and merchants' names:

First Commercial Directory.

Bannack—John S. Rockafellow, grocery.
Blackfoot—J. B. Cox, grocery; M. Branna & Co., general store.
Deer Lodge—Dance & Stuart, general store; John Grant, saw mill and hotel.
Diamond City—V. Ollinghouse & Co., grocery.

Helena—Wm. H. Allen, grocery and clothing; J. W. Alley, liquors; J. Barker, grocery; J. S. Beggs & Co., grocery; Morris Brown, clothing; Bryant & Gilpatrick, books, etc.; Bucker & Townsend, general store; O. D. Cass, general store; J. O. Cohn, grocery; Conrad Clark & Co., hardware; D. C. Coleman & Co., grocery; W. Couch, general store; C. D. Donaldson, grocery; F. M. Dunby, general store; A. Fall, stoves and tinware; G. Goldberg, clothing; L. A. Goldberg, clothing; Louis Goldberg, clothing; James Gormley, grocery; Hale & Morris, drugs; John How, general store; Hornbuckle & Co., wholesale and retail grocer; C. Jacobs & Co., general store; Henry Jingens, grocery; J. H. Jurgens, grocery; Kerr, Levy & Co., grocery; John Kima, stoves; King & Gillett, general store; King, Dunuavan & Co., grocers; J. H. Kinsel, grocery; LeFever & Hoyt, grocers; S. Lewis, clothing; J. Lowry, grocery; McKoin General Store; C. W. Mathers, saloon and billiards; George B. Mann, grocery; W. T. McLoud & Co., hardware; John H. Ming, general store and billiards; J. H. Morgan, grocery; Morse Walcott & Co., general store; Murphy & Stephenson, commission merchants; Owing & Conly, grocers; Penchon & Paynton, drugs and grocery; Poznaski & Behru, general store; John Roe & Co., grocery and freighters; Rosenfield, Pappenheimer & Co., general store; Simpson & Warner, grocery; S. E. Stickney, books and stationery; P. T. Stribling, grocery and miners' supplies; Taylor Thompson & Co., wholesale grocer, etc.; Tutt & Donnell, grocery; J. G. Upson & Co., wholesale grocery; Walker Bros., grocery and provisions; John Watson & Bro., grocery and provisions; Waterbury & Perkins, auction and commission; Wilcox & Co., grocery.

Digitized by Google

An Eastern Montana Road

Hellgate—Higgins & Worden, general store and Indian traders.

Missoula Mills—Worden & Co., general store and quartz mill.

Virginia City—Creighton & Ohle, commission; Df. James, drugs; Morrison Goldberg & Bro., merchants; Gorham & Patton, grocery; E. Gurney & Co., boots and shoes; Hale & Morris, drugs; George Hanna, grocery; Housel & Andrews, commission; John How, general store; John Kima, stoves, etc.; R. Merk, groceries and stoves; John H. Ming, general store and billiards; Patton's Grocery; Pfonts & Russell, grocery; Henry Powers, crockery and chinaware; J. S. Rockfellow, grocery; J. J. Roe & Co., grocery; Tutt & McDonnell, grocery.

By comparing the names at Virginia City and Helena, it will be seen that a number of these pioneer merchants operated stores in both places, thus getting the trade of the two greatest gold camps, Alder Gulch and Last Chance Gulch.

From this very modest beginning, Montana grew at a very satisfactory pace, the merchandising of the state being in keeping with the development of the mining and stock raising towns. Little or no attention was paid to agriculture when the state was young, therefore the mercantile establishments centered around the places where ore had been discovered, and where the cattle and sheep men made their semi-annual pilgrimages for supplies.

The 1875 Census.

In 1875, R. G. Dun & Company listed in Montana 292 merchants, divided among fifty towns and villages. There were also at this time four banking houses in the state. The most names appeared at Virginia City, which had forty-one merchants. Bozeman had twenty-seven merchants listed, Bannock nine, and Butte one. Among the other towns listed at this time were Beartown, Beavercreek, Beaverhead Valley, Blackfoot City, Cedar Creek, Cicero, Deer Lodge, Diamond, Forest City, Fort Benton, Frenchtown, Gallatin City, Hamilton, Helena, Missoula Mills, Nevada City, New Chicago, Philipsburg, Silver City, Unionville and Yankee Nation. Banks were listed at Bozeman, Helena, Deer Lodge and Missoula. Many of the towns and villages mentioned above are no longer in existence, having crumbled away when the ore bodies responsible for the founding of the towns, were worked out.

Many Still in Business.

Many of those who operated stores in Montana in the seventies were very successful, and no small number of businesses still operating were firmly established before the state was admitted to the Union. Among the family names that have appeared in a large per cent of the lists published by R. G. Dun & Company for

Digitized by Google

A Threshing Scene

Montana are Clark, Holter, Elling, Bonner, Greater, Larabie, Hennessy, Connell, Yegen, Babcock, Lindsay, Strain, Power, Storey, Renig, Conrad, Willson, Dart, Worden, Featherman, and Davis.

In 1880, according to Dun's records, there were 515 merchants in Montana. Since then the growth has been very rapid. In 1885 there were 1,954 merchants; in 1890, 2,905; in 1900, 3,390; in 1910, 6,476, and in 1920, 10,891.

The tables given herewith, compiled from the records of R. G. Dun & Company, offer means for a most interesting comparison of the number and location of merchants, and the extent of certain classes of business in Montana. The first table gives Dun's commercial census for July, 1900, and is tabulated as follows:

Stores in 1900.

County—	General Stores	Groceries & Meats	Confectionery Etc.	Grain Elevators	Lumber Yards	Saloons	Miscellaneous	Total
Beaverhead	5	12	1	....	1	19	56	94
Broadwater	11	3	3	....	....	9	23	49
Carbon	16	6	10	3	5	26	36	102
Cascade	17	34	19	4	4	56	157	291
Chouteau	16	6	3	1	2	25	53	106
Custer	18	3	1	1	4	15	51	93
Dawson	8	1	1	1	1	7	19	38
Deer Lodge	13	19	20	....	1	51	134	238
Fergus	16	4	3	1	2	24	47	97
Flathead	21	9	13	3	15	24	58	143
Gallatin	13	17	15	1	3	24	74	147
Granite	8	12	6	1	3	18	49	97
Jefferson	8	5	9	....	2	21	46	91
Lewis and Clark	15	32	31	4	5	62	214	363
Madison	24	8	9	2	2	27	56	128
Meagher	6	2	1	....	2	10	18	39
Missoula	21	14	17	1	8	39	84	184
Park	14	8	9	1	3	33	46	114
Ravalli	12	3	7	2	2	12	38	76
Silver Bow	12	87	60	....	5	148	354	666
Sweet Grass	3	3	1	....	....	7	20	34
Teton	8	1	1	....	1	11	20	42
Valley	13	1	2	1	1	15	13	46
Yellowstone	8	5	7	1	1	22	68	112
Total	306	295	249	28	73	705	1734	3390

The special classifications listed above are exclusive dealers in special lines, as indicated. Many merchants are engaged in several different lines of business so cannot be thus classified and it is therefore necessary to list them under the heading of miscellaneous.

Double in Ten Years.

During the decade following this census, the number of merchants in the state was virtually doubled, and with the development of the country, new businesses were established and old concerns were enlarged. In 1900 there were no automobile garages in the state, but by the time Dun's census for July, 1910, was taken, a few had started. The full census follows:

Digitized by Google

County—	General Stores	Groceries & Meats	Confectionery Etc.	Grain Elevators	Lumber Yards	Garages	Saloons	Miscellaneous	Total
Beaverhead	15	7	6	....	2	1	35	69	135
Broadwater	10	5	3	....	1	....	11	25	55
Carbon	28	24	17	1	7	....	60	108	245
Cascade	26	43	44	7	7	4	94	225	450
Chouteau	44	30	17	2	8	1	53	141	296
Custer	24	18	16	1	11	3	35	112	220
Dawson	26	11	9	2	5	3	27	87	170
Deer Lodge	5	18	30	....	1	1	38	76	169
Fergus	42	22	30	5	17	2	98	181	397
Flathead	31	25	29	2	17	....	48	172	324
Gallatin	24	25	19	6	11	1	40	143	269
Granite	6	5	6	....	1	....	21	33	72
Jefferson	14	12	10	1	1	....	35	37	110
Lewis and Clark	15	43	36	4	2	2	73	229	404
Lincoln	13	4	5	....	3	....	10	28	63
Madison	17	11	7	2	4	....	34	61	136
Meagher	15	8	11	1	5	....	26	58	124
Missoula	47	33	38	2	6	5	85	198	414
Park	24	15	21	....	3	3	56	130	252
Powell	15	9	8	....	3	....	18	45	98
Ravalli	19	7	14	2	1	2	19	103	167
Rosebud	17	5	2	....	4	....	10	40	78
Sanders	17	5	4	....	3	....	13	31	73
Silver Bow	18	126	116	11	4	1	161	447	884
Sweetgrass	8	3	1	....	2	1	10	37	62
Teton	39	13	7	4	11	....	31	58	163
Valley	47	22	9	7	6	....	49	109	249
Yellowstone	28	50	36	6	18	5	75	179	397
Total	634	599	551	66	164	35	1265	3162	6476

The classification of miscellaneous includes all those businesses which could not be listed under the distinct business headings, such as persons operating both general store and lumber or general store and grain elevator. The special classifications cover those engaged in the special lines only.

Period of Most Rapid Growth.

The period of most rapid mercantile growth came shortly after the Chicago, Milwaukee & St. Paul Railway finished its lines through Montana, when it was demonstrated that Montana was destined to be a great farming as well as stock-raising and mining state. Thousands of settlers flocked to Montana between 1910 and 1916, and immediately in their wake came many merchants, hundreds of whom met with signal success in their new fields. Many times stores were established in tents and tent houses and the demands of the new settlers for provisions, farm implements, etc., created a wonderful new business throughout almost the entire state.

The maximum number of merchants was reached in January, 1918, when there were 11,871 persons engaged in business in the state. As a result of war conditions and prohibition, the number of merchants decreased rapidly during 1918. Before December, 1918, when state prohibition became effective, there were about 1,200 saloons in Montana, and only about 40 or 50 per cent of the saloonmen engaged in other enterprises. During the last twelve months, however, the tide has again turned, many new businesses have started, and many openings for other business enterprises have become apparent.

Digitized by Google

Census of 1920.

Dun's July, 1920, commercial census is as follows:

Date Created	County	General Stores	Gro., Meat	Confectionery, Etc.	Grain Elev.	Lumber Yards	Garages	Miscellaneous	Total
1864	Beaverhead	20	10	22	1	3	24	83	163
1913	Big Horn	20	8	13	4	2	12	59	118
1912	Blaine	19	10	13	12	8	12	71	145
1897	Broadwater	9	5	9	1	4	5	33	66
1895	Carbon	33	32	45	7	11	26	140	294
1917	Carter	13	3	8	.....	2	7	22	55
1887	Cascade	35	103	126	36	21	73	495	889
1864	Chouteau	34	11	19	37	13	24	94	232
1864	Custer	11	19	19	5	6	18	131	209
1920	Daniels	19	6	14	12	10	5	63	129
1869	Dawson	23	8	15	16	11	10	90	173
1864	Deer Lodge	4	36	46	.....	2	15	112	215
1913	Fallon	11	9	8	8	6	6	60	108
1886	Fergus	46	33	56	45	25	42	211	458
1893	Flathead	34	32	34	6	10	27	220	363
1864	Gallatin	28	25	43	22	13	34	202	367
1919	Garfield	15	5	2	1	1	3	18	45
1919	Glacier	10	4	12	3	5	9	41	84
1913	Glacier Nat'l Park	1	.....	1	.....	1	1	3	7
1920	Golden Valley	16	3	6	9	7	9	26	76
1893	Granite	7	8	13	2	2	8	42	82
1912	Hill	31	24	22	13	17	27	141	275
1864	Jefferson	12	7	16	1	2	6	40	84
1920	Judith Basin	19	8	25	36	12	12	65	177
1864	Lewis and Clark	21	44	58	5	7	36	227	398
1919	Liberty	10	2	6	6	5	4	24	57
1909	Lincoln	17	13	16	.....	2	5	72	125
1919	McCone	12	3	4	1	1	4	16	41
1864	Madison	20	10	23	4	4	18	66	145
1866	Meagher	9	3	10	2	2	9	29	64
1914	Mineral	11	4	8	.....	1	3	22	49
1864	Missoula	30	36	57	7	11	42	228	411
1911	Musselshell	20	15	20	6	7	20	89	177
1887	Park	14	20	30	8	6	21	138	237
1915	Phillips	39	14	14	9	8	11	67	162
1919	Pondera	19	4	13	17	14	9	62	138
1919	Powder River	13	2	1	1	1	2	5	25
1901	Powell	12	6	16	1	2	9	57	103
1915	Prairie	9	4	6	5	6	5	25	60
1893	Ravalli	17	12	18	2	4	26	88	167
1914	Richland	24	10	18	15	11	10	83	171
1919	Roosevelt	28	12	21	20	11	20	134	246
1901	Rosebud	21	12	16	3	13	16	85	166
1906	Sanders	24	4	16	1	1	9	47	102
1913	Sheridan	30	10	17	32	19	17	110	235
1881	Silver Bow	17	239	208	5	8	65	581	1123
1913	Stillwater	20	12	14	12	12	16	74	160
1895	Sweetgrass	8	4	4	2	4	13	38	73
1893	Teton	29	6	18	29	16	14	72	184
1914	Toole	25	3	5	13	5	9	45	105
1919	Treasure	5	2	4	1	.....	2	14	28
1893	Valley	30	13	18	15	15	16	120	227
1917	Wheatland	14	9	15	12	7	15	69	141
1914	Wibaux	3	7	5	8	4	4	35	66
1883	Yellowstone	34	79	71	20	21	79	387	691
	Total	1054	1023	1337	539	422	944	5571	10891

The special listings are of merchants engaged exclusively in the lines mentioned; and those whose businesses or combinations of various lines of merchandise make it impossible to place them in any specific listing, are grouped under the heading of miscellaneous. Thus, a man operating a store and garage would appear in the miscellaneous column.

Digitized by Google

Few Failures in State.

The financial stability of any particular group of merchants is always plainly shown by the number of commercial failures occuring during any given period, and Dun's figures show that the number of failures in Montana, in proportion to the total number of persons engaged in business, has been very small. The following table tells its own story:

Year	Number of Merchants	Number of Failures	Assets	Liabilities
1910	6,476	129	$ 632,414	$ 744,294
1911	6,796	115	747,801	897,031
1912	7,274	32	159,120	249,706
1913	8,272	53	137,052	283,015
1914	9,359	91	687,142	886,756
1915	10,363	64	1,240,174	1,366,666
1916	10,971	80	561,386	603,700
1917	11,303	90	448,791	522,638
1918	11,871	95	868,714	880,397
1919	10,899	65	316,928	424,558

For the first six months of 1920 there were 40 failures with $274,611 liabilities, against 10,891 merchants engaged in business.

The above figures relate only to mercantile establishments and not to banks and bank failures, but Montana has been happily fortunate in the matter of having strong banks, and there have been only a few bank failures in the entire history of the state. Both banking and mercantile institutions are sound.

Increase in Net Worth.

Some further idea of the financial strength of Montana's merchants is shown in the following table, showing the number of merchants of the various financial classifications:

	1900	1910	1920
Net worth $200,000 to $1,000,000	24	78	592
Net worth $50,000 to $200,000	71	264	607
Net worth $20,000 to $50,000	166	369	635
Net worth $5,000 to $20,000	444	925	1758
Net worth $500 to $5,000	1011	2079	2929
Net worth indeterminate	1674	2861	4370

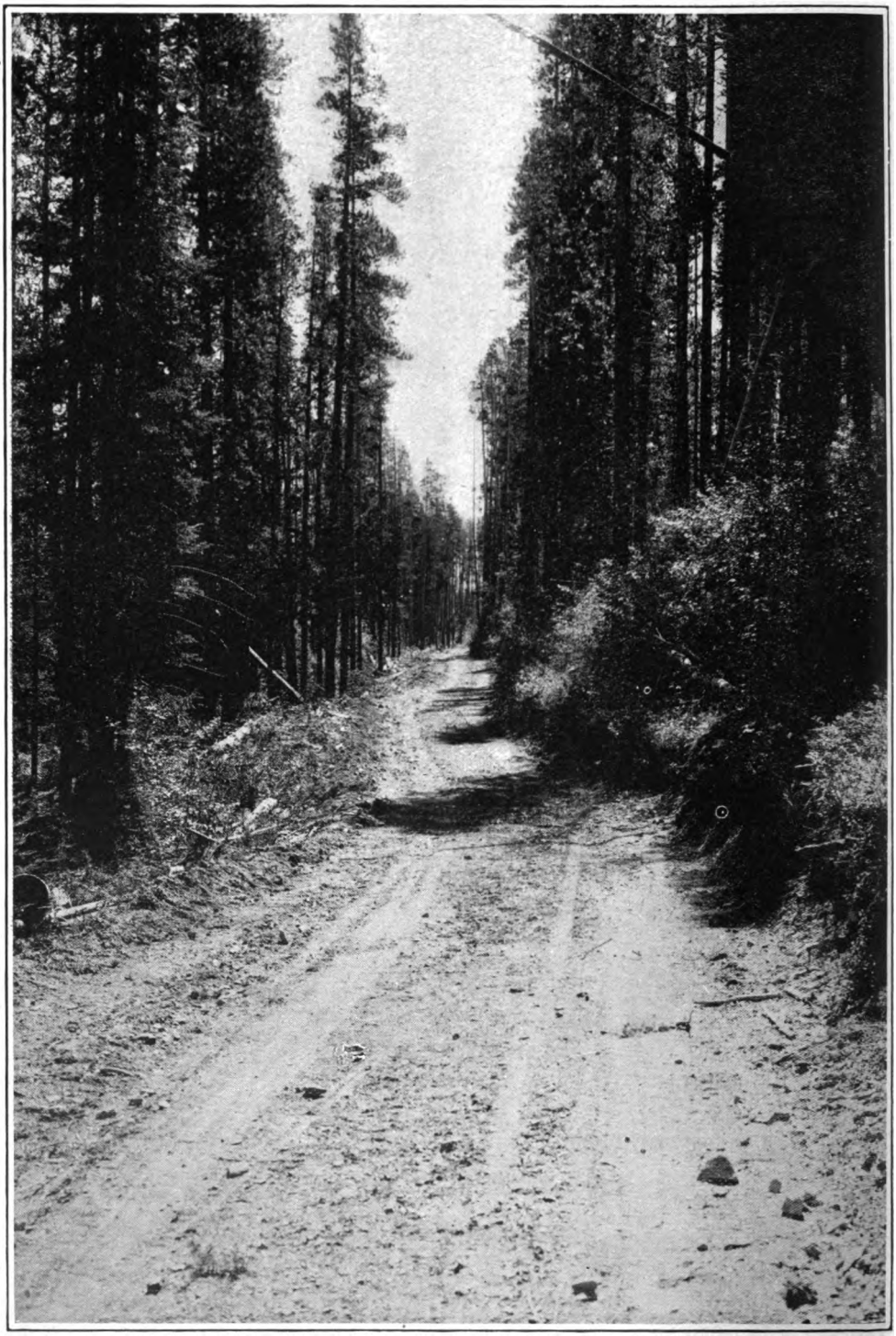
Some of the western states have over-developed along certain lines, but that there has been no overgrowth in the number of merchants of Montana, in comparison with other states, is shown by the following figures:

State—	Estimated Population, 1920	Merchants in 1920
Montana	650,000	10,891
New Hampshire	450,000	9,317
Rhode Island	615,000	8,878
Vermont	365,000	6,870
Utah	440,000	6,669
Idaho	430,000	7,169
Wyoming	200,000	3,646

Diversity of Field.

Anyone considering locating in Montana to establish new mercantile enterprises should study well their prospective field, for Montana offers a great diversity of locations. The state is vast, and has a multiplicity of interests. Some sections are devoted entirely to grain raising, others to diversified farming, and still others to cattle raising, dairying, mining, lumbering, etc. Naturally, the different localities demand different kinds of merchants and merchandise. Then there are the cities full of pep and ginger where all the latest merchandising ideas are carried out the medium sized towns, which cater to the large surrounding territory, and the small villages where the one or two stores must meet the varied requirements of the surrounding countryside. Some capital is necessary for a successful start anywhere in Montana, and experience and ability and willingness to work will be found almost indespensible to continued success. Montana is no place for the drone or the agitator who figures that the world owes him a living. Montana gives any and every honest man an opportunity, and that should be enough to satisfy anyone's desires.

Digitized by Google



On the Road From Helena to Great Falls

Digitized by Google

Montana Counties

Description of the Varied Resources and Opportunities of the Fifty-Four Divisions of the Commonwealth, Including Land, Crops, Industries and Towns.

BEAVERHEAD COUNTY.

Date of Creation, February 2, 1865.

Land Area, 5,632 Square Miles. Altitude County Seat, 5,098.
County Seat, Dillon. Growing Season, 101 Days.

General Description—Beaverhead county lies in the southwestern part of Montana, the Idaho-Montana line being its western boundary. The first important discovery of gold in Montana was made in Beaverhead county on Grasshopper creek in 1862, and it was this discovery that resulted in the development of the state. Bannock, in Beaverhead county, was the first territorial capital of Montana. The county is one of the most important stockgrowing centers in the state, and in addition it has considerable mining and farming as well as lumbering. The Big Hole Basin, Horse Prairie, the Centennial and the Alaska basin are the chief valleys. There are approximately 30,000 acres of first-class irrigated land in the county, 130,000 acres of second-class irrigated land, 175,000 acres of non-irrigated farming land, and the balance is grazing, mineral and timber land.

Surface and Soil—The continental divide of the Rockies marks the northwestern boundary of the county and it is flanked on the southwest by the Beaverhead mountains. Smaller ranges are found in the interior of the county. Between the ranges are big valleys and basins which are devoted to stockgrowing and farming. Most of the soil of the tillable areas is of a clay-loam type.

Crops—Hay is the principal crop raised in the county, although in recent years much grain, chiefly wheat and oats of high quality, has been raised on the benches. The altitude of Beaverhead county is comparatively high and experience has demonstrated that more money is to be made from raising the hardier crops.

Drainage and Water Supply—The Big Hole, Wise and Beaverhead rivers are the principal streams, and every few miles are fed by numerous tributaries that rise in the high mountains on the south and west. The county is one of the best watered in the state. The drainage is to the north.

Industries—Cattle raising and cattle feeding is the most important industry, with sheep raising in second place. Then come farming, mining and lumbering. The Big Hole Basin, 30 miles in length and 12 miles in width, is one great hay meadow, the forage of which is so nutritious that for years steers have been fattened in the winter on hay alone and shipped to markets throughout the country where they commanded the highest prices.

Mineral Resources—Beaverhead county is considered to have large mineral resources of copper, lead, graphite, manganese, silver and gold, but their exploitation has only been undertaken in recent years. The Elkhorn, Polaris and Argenta districts are the most important. A narrow gauge railroad has just been completed into the Elkhorn district to enable the development of mines there.

Timber—In the Beaverhead and Madison national forests are large stands of commercial timber. There are 1,325,000 acres of the Beaverhead, and 99,600 acres of the Madison forest, within Beaverhead county.

Land Values—Irrigated land sells for from $50 to $125 an acre, non-irrigated land from $15 to $50 an acre, and grazing land from $6 to $15 an acre.

Transportation and Highways—A branch of the Oregon Short Line, from Pocatello to Butte, traverses the county north and south. The Gilmore & Pittsburgh runs west from Armstead, in the southern part of the county, west to Salmon, Idaho. A narrow-

Digitized by Google

gauge line runs west and then south from Divide to Elkhorn. A good highway, paralleling the Oregon Short Line, runs through Beaverhead county, giving connection with Salt Lake and points west and also with Montana points further north.

Education—The State Normal College, the only school of its kind in Montana, is situated at Dillon. It has an enrollment upwards of 500. The county high school at Dillon is accredited for a four-year term. There are good rural schools in the county.

Tourist Attractions—Besides unrivaled hunting and fishing in the mountainous districts, relics of the early days in Montana when the vigilantes battled with the road agents and when the gulches poured out their golden treasures are to be found in this county, and that the days of the olden west when the cowboys were in their glory have not passed is to be evidenced on the big ranches in the Big Hole basin.

Cities and Towns—Dillon, the county seat, is a modern, up-to-date bustling little city and the principal community in the county. It is an important trading center, for parts of Idaho as well as for Beaverhead county. Wisdom and Jackson are the chief trading centers in the Big Hole valley.

Special Opportunities—Further development of the agricultural resources of the county, and establishment of herds of pure-bred cattle and sheep, the market herds of the county affording a ready outlet for all breeding animals.

Climatological—The mean temperature and precipitation at Dillon are given by the U. S. Weather Bureau as follows:

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Temp...	21.7	25.7	32	42.3	53	60.5	64.5	62.6	55.4	45.1	33.9	26.6	43.7
Prec.....	.82	.64	1.33	1.85	3.36	2.56	1.21	1.40	1.58	.98	.87	.72	17.32

BIG HORN COUNTY.

Date of Creation, January 13, 1913.

Land Area, 5,111 Square Miles.
County Seat, Hardin.
Altitude County Seat, 2,966.
Population, 1920, 7,015.
Population County Seat, 2,000.
Growing Season, 110 to 132 days.

General Description—Big Horn county lies in southeastern Montana, with its southern boundary marked by the state of Wyoming. It is irregular in shape with a maximum length east and west of 120 miles and a maximum width north and south of 70 miles. The Crow Indian reservation, which will soon be thrown open, lies wholly, and the Tongue River Northern Cheyenne reservation partly, within the boundaries of the county. It is estimated more than 100,000 acres are under irrigation. Projects are contemplated for the reclamation of 125,000 acres more. There are approximately half a million acres of non-irrigated grain land. The remainder of the county is grazing land.

Surface and Soil—Isolated mountain ranges rise near both the eastern and western sides of the county, but most of the surface is level or rolling, with broad bench uplands. There are several large and many small fine valleys. The soil principally is a rich clay loam, which is mixed with considerable sand in some places and in others is somewhat heavy and of the gumbo type.

Drainage—There are two large rivers, the Big Horn and Little Big Horn, which enter the county from the southwest and south respectively, and, running north, unite near Hardin, the county seat. The Big Horn is the third largest river in Montana. Both it and the Little Big Horn rise in the high mountains of Wyoming and they are fed by numerous tributaries in Big Horn county. Rosebud creek traverses the eastern side of the county. Water is encountered at depths ranging from 15 to 100 feet. Springs are frequent in the uplands, making it a good pasture region.

Crops—The principal crops are alfalfa, sugar beets, wheat, oats, corn and potatoes. Corn is raised both for grain and for silage.

Industries—Stockgrowing and agriculture are the chief industries. Stock raising is carried on in the regions away from the rivers and streams. Then come the farmers on the non-irrigated lands, most of whom keep some stock and raise wheat and corn aside from garden stuff. Alfalfa and sugar beet growing are confined to the irrigated districts along the streams. Much pork is produced in the irrigated districts, the pigs being brought to maturity chiefly on alfalfa pasture and then fattened on corn, wheat or barley. Dairying is just getting under way. Several large and successful apiaries have been established.

Digitized by Google

Wheat Field in the Gallatin Valley

Mineral Resources—Coal is found in some localities but is not being mined in commercial quantities. Natural gas has been found in wells around Hardin and drilling operations are contemplatd for the discovery of oil.

Timber—Small pine timber of slight commercial value is found in the north end and in the mountain ranges on the eastern and western sides of the county. Along the rivers and streams there is an abundant growth of cottonwood.

Land Values—Irrigated land prices range from $40 to $200 an acre; non-irrigated farming land from $10 to $75, and grazing land brings from $6 to $12 an acre.

Transportation and Highways—The Burlington railroad runs north diagonally through the county to connections with the Northern Pacific and Great Northern. A branch to the east has been projected to serve the southeastern part of this county and adjacent counties. The Custer Battlefield Hiway is the state highway, there being 75 miles of it in the county.

Education—There are 57 schools in Big Horn county of which 50 are public schools, including a fine high school. There are three Baptist schools, two Congregational schools and two schools conducted by the federal government for the Indians.

Tourist Attractions—The Custer Battlefield, perhaps the most famous Indian battlefield of the United States, where General Custer and his entire command were wiped out by the Sioux in 1876, is on the Custer Battlefield Hiway in the center of the county. Little white crosses, each cross marking where a soldier fell, dot the field, culminating in the monument at the highest point of the ridge overlooking the Little Big Horn, where the final stand was made. The progress of the battle is graphically depicted through the crosses. The Big Horn canyon is an exceptional bit of scenery. A big combined hydro-electric-irrigation project is contemplated here.

Cities and Towns—Besides Hardin, the county seat, Crow Agency, Lodge Grass and Wyola are the chief trading centers of the county.

Special Opportunities—Agricultural development, dairying, specialized farming on irrigated lands. Reported several more hotels are needed.

Climatological—The mean temperature and precipitation, by months, at the Crow Agency station, as determined by the U. S. Weather Bureau, are as follows:

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Temp..	18.6	20.8	31.6	45.0	56.2	64.9	71.4	69.3	60.0	47.0	32.7	23.7	45.1
Prec....	.75	.58	.94	1.36	2.47	2.73	1.26	.98	1.06	1.20	.75	.70	14,78

Digitized by Google

BLAINE COUNTY

Date of Creation, February 29, 1912.

Land Area, 4,219 Square Miles.
County Seat, Chinook.
Altitude County Seat, 2,407.
Growing Season, 118-127 Days.
Population, 1920, 9,057.
Population County Seat, 1920, 1,217.

General Description—Blaine county lies in the northern part of Montana, about midway across the state, east and west. The Canadian line is its northern boundary and the Missouri river its southern. Physically and industrially, the county is divided into two sections. The plains or agricultural section lies north of township 30 and is wholly devoted to grain growing and farming and comprises about two-thirds the total area of the county. The mountainous or stock raising section occupies the southern part of the county. The Milk River valley, which crosses the county east and west, is included in the Milk River project of the reclamation service, and when developed is destined to be one of the best agricultural districts in the state. The Fort Belknap Indian reservation occupies the southwestern part of the county.

Surface and Soil—The soil varies from a sandy loam to a gumbo in the valleys. That on the benches is mostly a chocolate loam. In the southeastern part of the county there are outlying ridges of the Little Rocky Mountains while in the southwestern part are found the Bear Paw mountains. Much of the land in the southern part is too rough and broken for aught but grazing.

Crops—Flax, wheat, oats, rye, corn, alfalfa and blue-joint hay are the most important crops. Root crops and vegetables do well.

Drainage and Water Supply—The Milk river is the principal stream, although good sized tributaries flow into it from the north and from the Bear Paw mountains on the south.

Industries—Agriculture, stockraising and some mining are the chief industries. Alfalfa seed raised in Blaine county has always commanded a premium on the market.

Timber—Some timber is found in the mountainous districts in the southern part of the county, while cottonwood is found along the streams.

Land Values—Irrigated land sells at $30 to $50 an acre and non-irrigated land, suitable for grain growing, from $10 to $20 an acre.

Transportation and Highways—The main line of the Great Northern from St. Paul to the coast runs through the heart of the county, and is paralleled by the Roosevelt Memorial Highway.

Education—There are two high schools in the county—at Chinook and Harlem—both accredited for the four-year course, and graded schools have been established in all the communities. The Chinook high school offers, in addition to the regular courses, a course in agriculture.

Tourist Attractions—The Fort Belknap Indian reservation, hunting and fishing, fine scenery and the romance of the old west in the mountainous and stockraising sections in the southern part of the county.

Cities and Towns—Chinook, the county seat, is the largest and most important town in the county. It is modern and up-to-date. Many farmers from the outlying districts bring their families into Chinook in the winter to give their children advantages of the schools. Harlem, 22 miles east of Chinook, is the second largest town, and is also a modern community, and the winter home of many bench land farmers. Other hustling little towns and trade centers are Lohman, Zurich, Savoy and Coburg. All the towns along the railroad are equipped with two to four grain elevators and stockyards.

Special Opportunities—Development of the irrigated lands in the Milk River valley offers a good opportunity to practical farmers with some means.

Climatological—The mean temperature and precipitation at Chinook, as determined by the United States weather bureau, are as follows:

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Temp..	12.6	14.8	26.7	42.5	55.5	63.8	69.7	68	57.7	43.7	27.5	20.8	41.9
Prec....	.60	.36	.40	.69	2.37	2.74	1.30	1.26	1.27	.76	.61	.40	12.76

Digitized by Google

BROADWATER COUNTY.

Date of Creation, February 9, 1897

Land Area, 1,248 Square Miles.
County Seat, Townsend.
Altitude County Seat, 3,813.
Population, 3,239.
Population County Seat, 1920, 897.
Growing Season, 100-135 days.

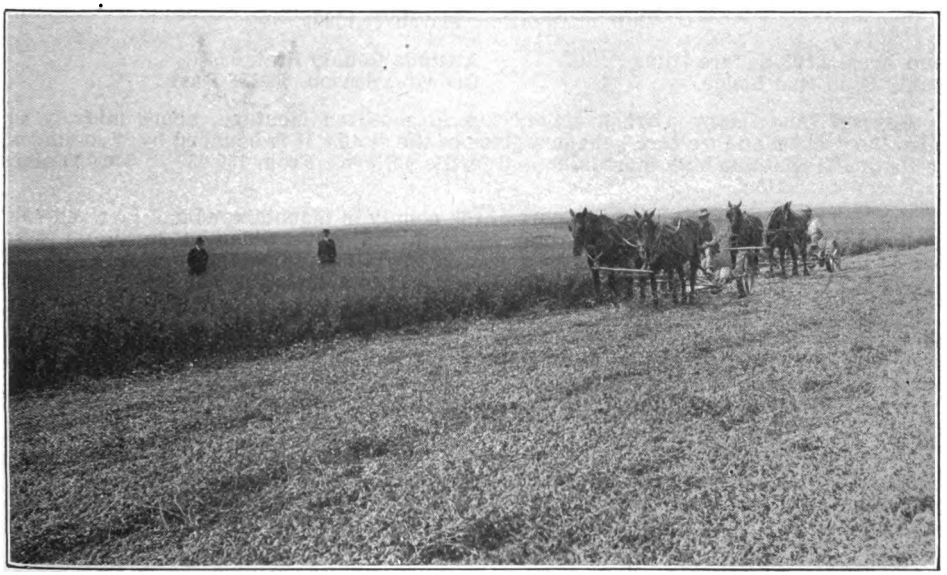
General Description—Broadwater county, which is one of the smaller counties in area, lies in the west central part of the state. On the north it is bounded by Lewis and Clark and Meagher counties, on the west by Lewis and Clark and Jefferson counties, and on the south and east by Gallatin and Meagher counties. Broadwater county is one of the richest agricultural sections in the state, and some of the prize-winning cattle, sheep and hogs of the country are raised within her borders. The mining industry is one of her important industries, and some lumber is annually taken from her forests.

Surface and soil—The crest of the Big Belt range of mountains marks the eastern boundary of Broadwater county and the Elkhorn range is found on the western side. Between these two ranges the Missouri river flows. The Missouri valley is fertile and between it and the mountains are found benches. The soil in the valleys is a black loam and that on the bench lands a clay loam. There is some gravel in places. Next to the Missouri valley, the Crow Creek valley is the most important in the county. Excellent grazing for livestock is found in the mountains.

Drainage—The Missouri river is the largest stream in Broadwater county, entering the county in the southeastern end of the county and running an irregular course northeasterly across into Lewis and Clark county. Other streams in the county are Crow creek, Dry creek, Deep creek, Grayson creek, Ray creek, Gurnett creek, Duck creek, Confederate creek and Indian creek. Waters are taken from all these streams for irrigation purposes and used on the farm lands in the valleys and upper benchlands. Numerous springs are found in the uplands where pastures for stock are found.

Crops—The principal crops of Broadwater county are wheat, oats, barley, millet, rye, sudan grass, alfalfa, sweet clover, timothy and clover, corn and potatoes.

Industries—Stockraising and agriculture are the chief industries. Large herds of cattle, sheep and horses are raised in Broadwater county. During the summer months these herds are pastured in the upper mountain country, where there is abundant feed and water. Large tracts of irrigated land are found in the lower regions, where crops of hay, grains and other feeds are raised. The upper bench lands are mostly devoted to



Alfalfa Near Helena

Digitized by Google

dryland farming, where crops of wheat and barley are raised. Dairying is fast becoming one of the chief industries, and Broadwater county boasts of one of the most up-to-date creameries in the state, as well as an up-to-date flour mill, where much of the wheat raised is ground into flour.

Mineral Resources—There are several producing mines in Broadwater county, among them being the mines at Radersburg ,the Iron Mask and Silver King mines near Townsend, the Diamond mines near Diamond, from all of which are mined gold, silver and lead. There is a large marble deposit near Townsend which promises to soon be opened.

Timber—Pine and fir timber, as well as cedar, are found in the mountainous region, and there is an abundant growth of cottonwood along the numberless streams. There are 219,040 acres of the Helena forest within the county.

Land Values—Irrigated land prices range from $40 to $200 per acre; non-irrigated land from $10 to $100 per acre; and grazing land from $5 to $15 per acre.

Transportation and Highways—The Park-to-Park Highway passes through Broadwater county, as well as the Montana Electric Highway, both of which run in an east and west direction across the county. The Northern Pacific railway runs east and west across the county, and the Chicago, Milwaukee and St. Paul railway crosses the southern end of the county.

Education—Broadwater county has 54 public schools, 52 of which are rural schools. The county high school and grade school are located at Townsend.

Tourist Attractions—Some of the prettiest scenery in Montana is found in Broadwater county, the road down the Deep Creek canyon being an exceptionally beautiful drive. Confederate creek, Crow creek, and all the other streams mentiond, offer the tourist attractive camping sites where fishing and hunting are unexcelled.

Cities and Towns—Townsend, the county seat, is the largest town in the county, and Toston, Winston, Radersburg, Lombard and Canton are the principal trading centers.

Special Opportunities—There are excellent opportunities in this county for agriculture, stockraising, dairying and dryland farming.

Climatological—The mean temperature and precipitation for Broadwater county are not available. See records for Helena (Lewis and Clark county).

CARBON COUNTY.

Date of Creation, March 4, 1895.

Land Area, 2,108 Square Miles.
County Seat, Red Lodge.
Altitude County Seat, 5,537.
Growing Season, 84-123 Days.

General Description—Carbon county lies in southern Montana, about midway between the eastern and western boundary lines of the state. It is bounded by Wyoming on the south. It contains high mountains and fertile valleys. From 150,000 to 200,000 acres are under irrigation.

Surface and Soil—The southern part of the county is mountainous and is given over chiefly to stockraising. The valleys, running north and south, widen out in the northern part of the county and the mountains give way to rolling benchlands. The soil in the valleys is a deep alluvial loam; on the benchlands it is a chocolate colored loam.

Crops—Sugar beet raising is extensively followed in the northeastern part of the county, along the Clark's Fork, and some of the finest sugar beet farms in the state are found here. Wheat, oats and barley are the chief grain crops, while beets, potatoes and vegetables are raised in large quantities. Considerable fruit, chiefly apples and berries, are grown. Much hay is raised, and good corn in the northern and eastern portions of the county.

Drainage and Water Supply—Carbon is one of the best watered counties in the state, numerous streams rising from the glaciers and snow packed drifts in the Bear Tooth mountains. The principal streams are the Clark's Fork, Rock creek, Willow creek and Red Lodge creek. Water is found in wells at depths ranging from 10 to 30 feet.

Industries—Aside from agriculture and stockraising, coal mining is the chief industry. Bituminous coal is mined at Red Lodge, Washoe and Bear Creek, and the mines are reputed to be the largest in the northwest.

Digitized by Google

Mineral Resources—Besides the large coal measures already developed, big deposits await development. Minerals of various kinds have been found in the southern part of the county, but owing to lack of transportation facilities development has not been carried to a commercial scale. The first producing oil well in Montana was struck in Carbon county, in the Elk Basin field, November 11, 1915. Several other producing wells were brought in later.

Timber—Much commercial timber is found in the Beartooth National forest, of which 315,056 acres lie in Carbon county. Logging operations, however, have been carried on only in a small way.

Land Values—Well improved irrigated farms sell for $125 up to $250 an acre, and non-irrigated land from $10 to $50 an acre.

Transportation and Highways—A branch line of the Northern Pacific runs from Laurel, on the main line, to Red Lodge, and another to Bridger. At Bridger this branch connects with a local railroad that serves the Bear Creek field. The Burlington Cody-Denver line runs through the county, and from Fromberg north uses the Northern Pacific tracks. A main north and south highway runs through the county, one branch going to Cody, Wyoming, and another to Denver. There are good local roads.

Education—There are good graded schools in the county and four high schools, a county high school at Red Lodge and other high schools at Bridger, Joliet and Bear Creek. The latter is accredited for a three-year term and the other three for a four years' course.

Cities and Towns—Red Lodge, the county seat, is the largest town and headquarters for the coal mining industry. It is the gateway to the Beartooth Mountains. It is modern in all respects. Bear Creek and Washoe are coal mining towns. Fromberg is in the heart of the agricultural region. Other good towns are Bridger, Edgar, Silesia, Boyd, Roberts, Luther, Roscoe and Belfry.

Special Opportunities—Development of hydro-electric power, development coal measures, tourist resorts in the Beartooth mountains, agriculture and stockraising.

Climatological—The mean temperature and precipitation for Red Lodge are given by thee United Statees Weather Bureau. It should be remembered that Red Lodge is considerably higher in altitude than most of the agricultural portion of the county. The data for Red Lodge is as follows:

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Temp..	19.2	20.3	26.7	38	48.1	56.9	61.8	62.1	53.5	42.7	31.1	24.9	40.4
Prec....	.84	.86	1.68	2.55	4.32	2.46	1.37	1	1.80	1.56	.51	.56	19.51

Good Corn Is Raised In Richland County

Digitized by Google

CARTER COUNTY.

Date of Creation, February 22, 1917.

Land Area, 3,318 Square Miles.
County Seat, Ekalaka.
Altitude County Seat, 3,000 feet (estimated).
Growing Season, 115 Days.
Population, 1920, 3,972.
Population County Seat, 1920, 433.

General Description—Carter county lies in the southeastern corner of the state, the South Dakota-Montana boundary marking its eastern side and the Wyoming-Montana boundary its southern side. It has a maximum length north and south of 78 miles and a maximum width east and west of 48 miles. There is not a mile of railroad within its boundaries and because of lack of transportation facilities its development has proceeded slowly. It offers good opportunities to persons with a pioneer spirit who have patience to await the coming of a railroad. There has been but little irrigation development, but it is said a feasible project exists along the Little Missouri river.

Surface and Soil—Except for the Blue Mud Hills near the middle of the county, and a tract near the eastern boundary that is occupied by a national forest, most of the surface of the county is rolling prairie and a large proportion of it is tillable. The soil varies from a sandy loam to a heavy gumbo. Most of it is good. In 1919 there were 849,771 acres of unreserved homestead land in the county and 87,746 acres of state lands that can be purchased on long-time payments.

Crops—All kinds of grain and forage crops do well, but because of the long haul to market production has been retarded. Corn is proving an especially good crop The Chalk Buttes country, southwest of Ekalaka, the Beaver Flats and the Box Elder valley are considered especially desirable.

Drainage and Water Supply—The Little Missouri river meanders through the southeastern part of the county, and the other principal streams are Box Elder and Beaver creeks, also flowing northeasterly. They are fed by a number of tributaries.

Industries—Farming and stockraising are the chief industries. A start has been made in dairying, encouraged by an up-to-date creamery in Ekalaka. The southern end of the county is largely devoted to stockraising. Considerable interest is being taken in oil possibilities.

Mineral Resources—Large beds of lignite coal underlay most portions of the county. Building stone is found in a number of places. Geologists believe the county contains oil and gas prospects that warrant development. Several large concerns have obtained leases and intend to prospect the region.

Timber—The Sioux National Forest occupies 114,541 acres in the eastern part of the county, the timber stands making it possible for residents of the county to obtain lumber readily.

Land Values—Land ranges in price from $5 to $25 an acre, values being low because of lack of transportation facilities.

Transportation and Highways—A railroad has been projected through the county from Belle Fourche, South Dakota, to Miles City, and it is believed that as soon as financial conditions permit it will be built. Trade from the southern end of the county goes to Belle Fourche, South Dakota, and from the northern end to Baker.

Education—Besides 76 rural schools in the county districts, there is a high school at Ekalaka, the county seat, that is accredited for the four-year term.

Tourist Attractions—It was on the Little Missouri river, just across the line in Dakota, where Theodore Roosevelt ranched in the eighties. In "Hunting Trips of a Ranchman" he deals with this region. In the northern part of Carter county are found Medicine Rocks, a sandstone formation that has been weathered into countless architectural and fantastic shapes and has been likened to Colorado's "Garden of the Gods." Much beautiful scenery is to be found in the Sioux National forest.

Cities and Towns—Ekalaka, the county seat, is the largest community in the county. It lies 42 miles south of the Milwaukee railroad and is considered a hustling inland town. It has two general stores, two hardware stores, two drug stores, two lumber yards, two newspapers, two banks, three garages, creamery, flour mill, good hotels and various other lines of business. All religious denominations hold services in the Union church building. Piniele, in the southwestern part of the county, is the second largest community. It has two general stores, a flour mill, drug store, bank, garage, hotel, newspaper, electric lights, and other lines of business.

Special Opportunities—Agriculture and stockraising.

Climatological—Mean temperature and precipitation in the county are not available.

Digitized by Google

CASCADE COUNTY.

Date of Creation, September 12, 1887.

Land Area, 3,411 Square Miles.
County Seat, Great Falls.
Altitude County Seat, 3,330.
Growing Season, 71-140 Days.
Population, 1920, 38,836.
Population County Seat, 1920, 24,121.

General Description—Located where the plains meet the mountains, Cascade county and the city of Great Falls are between a rich mining and stockraising district and the great agricultural basin of north central Montana. According to the 1920 assessment rolls, Cascade county has 524,000 acres of grain land and 937,000 acres of grazing land, a total of 1,461,000 acres subject to assessment. Included are 75,000 acres of irrigated land. Projects are now pending for the irrigation of 120,000 additional acres, including 60,000 on Sun River bench, 40,000 at Benton lake, 12,000 at Ulm and 9,000 acres at Simms. Government land in this county includes 26,665 unsurveyed and 30,916 surveyed acres. There are 100,240 acres of state land and 421,242 acres in national forests. Cascade county has an assessed valuation of $115,909,716.

Surface and Soil—The northern part of Cascade county is a rich agricultural district, while the southern section is mountainous, affording grazing land as well as mining resources. The loamy soil, lying over a good clay subsoil, is rich, making possible good dry-land yields in normal years. Much of the farm land is susceptable of irrigation, located below the watersheds of mountains on two sides. Especially fertile are the valleys along the Missouri river, Sun river, Smith river and other streams.

Drainage and Water Supply—The Missouri river runs diagonally through Cascade county, with a sudden descent over a series of falls and rapids, from the mountains to the southwest, and with a more gradual flow toward the northeastern boundary, below the Great Falls. Flowing from the north and west is Sun river, which has its conflux with the Missouri at the city of Great Falls. The Dearborn and Smith rivers also traverse Cascade county, flowing into the Missouri river. Another fertile valley is formed by Belt creek, a stream which heads in the Little Belt mountains and flows north 100 miles, emptying into the Missouri near Great Falls.

Crops—The chief crops are wheat, oats, flax, barley, rye and potatoes. Alfalfa does well. Truck gardening has proven successful and excellent fruit and berries are raised in the valleys. Corn is raised for grain in some instances but chiefly for silage. Sunflowers are being raised in quantity for silage.

Industries—Apart from agriculture, mining, smelting, manufacturing, milling, packing and wholesaling, augmented by large power development on the falls of the Missouri, have made Great Falls and Cascade county a leading commercial, financial, industrial, jobbing, manufacturing and distributing center. Water power made available through a drop of 365 feet in the Missouri river in a series of four falls near the city of Great Falls has been developed to the extent of 165,000 horsepower, with 200,000 additional horsepower in reserve. Current produced at Great Falls plants is used in operating a transcontinental railroad across the state, also mines and numerous industrial plants throughout the state. Copper and zinc smelters for the reduction of Montana ores, also a ferro-manganese plant, a wire mill and a large brick plant utilize the water power, giving employment to 3,000 men in one institution, the Anaconda Copper Mining Company, which has an annual payroll of $3,300,000 in Cascade county. Great Falls is a division point on the Great Northern railway, with the largest shops between Hillyard, Washington, and St. Paul, on the Great Northern line. This company's annual payroll in Cascade county exceeds $2,000,000. Among the larger industries which have taken advantage of the cheap power and commercial opportunities are two flour mills with a daily capacity of 5,100 barrels; a tire factory, a packing plant, the largest between Minneapolis and Spokane, and numerous smaller industries. Dairying is growing in importance. Six creameries have been established, together with two cheese factories. One of the dairies is rated by experts as one of the finest in the west. Purebred cattle raising is greatly stabilizing the cattle industry in Cascade county. The completion in Great Falls of a $30,000 livestock pavilion and sales arena in the past year is an important step toward this development. Drouth years have reduced the number of cattle and horses, but there are now 27,367 head of cattle, 61,956 head of sheep and 13,088 head of horses in Cascade county. Proximity to the grazing lands of the national forest makes this an excellent cattle raising country.

Mineral Resources—Cascade county ranks first of all counties in Montana in the number of coal mines operated. The larger producing companies are located in the Belt and Sand Coulee fields, a short distance from Great Falls, making fuel readily available to industries in the city. Coal outcroppings throughout the county provide fuel for farm-

Digitized by Google

A Montana Dairy Plant

ers. In the Neihart district there are rich silver mines which are being developed on a large scale. The opening of three oil fields, two to the north and one to the east, is being watched with considerable interest, these fields being located close in on the territory directly tributary to Great Falls. In addition to coal and silver, Cascade county mines are producing lead, copper, gold, zinc and gypsum, while there are large undeveloped iron deposits of superior quality within the county.

Timber—Heavy timber is to be found in the Little Belt mountains, in the southern part of the county, and there is timber in adjoining mountain ranges, all within the Jefferson National forest. Wooded areas are also to be found along the principal streams.

Land Values—The county assessor's report for 1920 shows there are 1,461,000 acres of patented farming and grazing land in Cascade county. Non-irrigated and grazing land is valued at from $15 to $30 an acre and improved land is valued at from $20 to $50 an acre. Unimproved irrigated land is selling at from $35 to $50 an acre and improved irrigated farms range in value from $50 to $150 an acre.

Transportation and Highways—Three transcontinental railroads operate through Great Falls and Cascade county, the Great Northern, Chicago, Milwaukee and St. Paul, and the Chicago, Burlington and Quincy railroads. These roads have nine branches tapping rich agricultural and mining regions in every direction, making Great Falls the center of a network of lines. With the completion of the projected "Missouri cutoff" the coast-to-coast mileage of the Milwaukee will be greatly lessened, perhaps bringing through service by way of Great Falls. The Soo railway has established a permanent survey through Great Falls, passing through Valier and the Blackfeet Indian reservation to Canada. Great Falls is located on the Y. G. Beeline Highway, the short route between the Yellowstone and Glacier National parks, and this highway is a part of the National Park-to-Park Highway. Great Falls is also on the Custer Battlefield Highway and the Buffalo Trail. Large sums of money are being expended in Cascade county in permanent road construction in building a system of trunk roads.

Education—There are 143 public schools in Cascade county, six high schools, one junior high school, three parochial schools; Ursuline academy, a girls' school, and a commercial college. Cascade county schools are operated under the unit plan, with a uniform nine-month school term for every child in the county, and with an attractive salary scale for teachers.

Digitized by Google

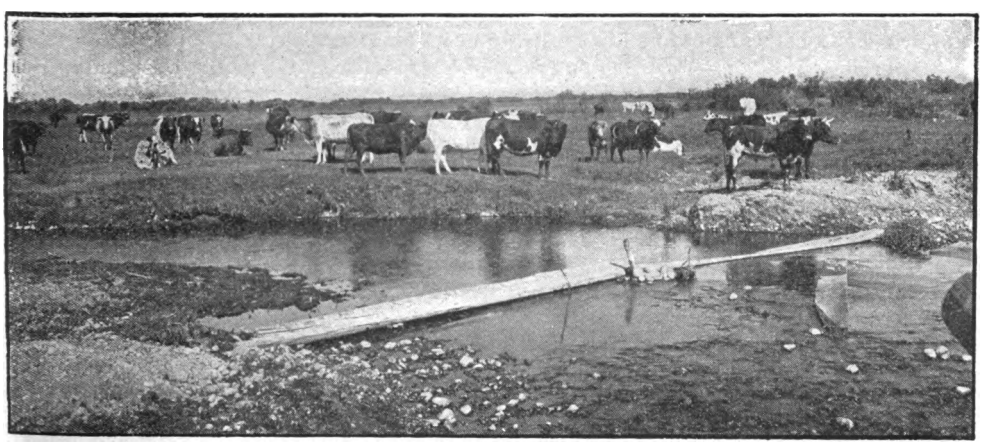
Tourist Attractions—Located within a few hours' drive of any one of four mountain ranges, each of a different type of scenery, Great Falls and Cascade county is a center of tourist travel. The city is half way between the two national parks—Glacier and Yellowstone—and many park tourists stop over here en route. Half a hundred one-day trips have been mapped out to the detail of location of camping places and available wood and water for the visitor, directing him to his choice of scenery, fishing or hunting. Excellent big game or bird hunting is to be found within a few hours' drive of Great Falls, making it possible for tourists to spend comfortable nights in the beautiful hotels which Great Falls affords, while spending enjoyable days in the mountains. The Missouri river is itself an important factor, offering in addition to wonderful scenery, water sports and boating and fishing. The nearby streams are kept well stocked with grayling, eastern, brook, rainbow and mountain trout. Excellent tourist camping grounds have been provided by each city and town of the county and courteous attention is given tourists. The historic Lewis and Clark expedition followed up the river past the present site of Great Falls, discovering Giant Springs, one of the largest fresh water springs in the world, the cold sulphur springs near Big falls, and other points of interest in and about Great Falls vicinity, giving a particularly interesting historical setting for the many tourist attractions.

Cities and Towns—Great Falls is the principal city of northern Montana, having 30 miles of street and alley pavements, 21 miles of the finest boulevards in the west, 725 acres of parks and playgrounds, a half-million dollar municipally owned water system, a public natatorium, 26 churches, a city market, two daily newspapers, 60 factories, two of the finest hotels in the west, numerous lodge homes, a country club and golf course, and eight banks with resources of $15,000,000. True to its name, "Electric City," Great Falls streets are lighted by one of the finest systems of ornamental street lighting in the west.

Special Opportunities—The greatest attraction to capital and industry in Cascade county is the rich area tributary to the city of Great Falls. Wool growing is an important industry and the wool is of highest grade. Woolen mills producing all sorts of garments and textiles should be financial successes. There is opportunity for flax fibre mills, with related manufacturies. Montana grain is of such quality that cracker and oatmeal factories should be an early development. The establishment in Great Falls of a $250,000 state elevator, authorized by the last legislature, should prove an impetus to the milling industry. Cheap power and excellent distributing advantages over a field in which there is little competition, owing to great distances to other distributing centers, should make Great Falls a manufacturing center for agricultural implements, twine, stock food, barbed wire, clothing and other things required by farmers on the agricultural empire of 5,000,000 acres in the trade zone of Great Falls and the entire middle west. The housing situation has long been a problem in Great Falls, giving opportunity for substantial apartment houses to be built and operated at a profit.

Climatological—The mean annual temperature and precipitation at Great Falls are given by the United States Weather Bureau as follows:

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Temp..	23	24.6	33.2	44.7	54.1	62.8	68.3	66.9	57.9	46.8	35.1	28.9	45.3
Prec....	.69	.56	.80	1.15	2.61	3.38	1.30	1.09	1.27	.83	.77	.49	15.14



Dairy Herd In Deer Lodge Valley

Digitized by Google

CHOTEAU COUNTY.

Date of Creation, February 21, 1865.

Land Area, 4,432 Square Miles.
County Seat, Fort Benton.
Altitude County Seat, 2,565.
Growing Season, 127-135 days.
Population, 1920, 11,051.
Population County Seat, 1920, 1,065.

General Description—Chouteau county lies in the north central part of Montana. A large proportion of its surface is tillable. One of the oldest counties in the state, and the head of navigation on the Missouri river, it is rich in historical lore. Stockraising was the chief industry until ten years ago, when agriculture became dominant. Only within the past few years has irrigation been practiced. Private pumping plants, electrically actuated, now irrigate about 5,000 acres.

Surface and Soil—The Bear Paw mountains extend into the northeastern corner of the county, and the Highwood mountains jut over along the southern boundary. The country is broken along the streams, but there are many broad, rolling prairies which have produced good crops without irrigation. The prevailing type of soil is a chocolate loam.

Crops—The principal crops are wheat, rye, oats, barley and flax. Some attention, with success, has been given to corn and sunflowers for silage, and alfalfa has been seeded on the recently irrigated lands.

Drainage and Water Supply—Three rivers flow in the county. The Missouri enters from the south, flows northeast about 60 miles and then turns to the southeast. The Teton river flows from the west, and the Marias river from the north, the confluence of these streams being at Loma, near the center of the county, where they join the Missouri. The Arrow river skirts the southeastern boundary of the county.

Industries—Cattle and sheep raising and agriculture are the chief industries.

Mineral Resources—Lignite coal is found in some parts of the county. Prospecting for oil and gas has been undertaken.

Timber—There are 32,602 acres of the Jefferson National forest in the county. Cottonwood is found along the streams.

Land Values—Irrigated land is held at $75 to $125 an acre and non-irrigated land from $15 to $50 an acre, depending upon location and improvements.

Transportation and Highways—There are two railroads in the county. The Havre-Butte branch of the Great Northern cuts the area from the northeast to the southwest, while the Lewistown-Great Falls branch of the Chicago, Milwaukee and St. Paul makes a loop through the southern part. The state highway connecting Great Falls and Havre parallels the Great Northern. There are good secondary roads.

Education—There is a county high school at Fort Benton and another high school at Big Sandy, both accredited for four-year terms. Common schools are found in all the community centers. There is a good system of rural schools. Chouteau was the first county in the state to establish a county library. It is located in Fort Benton, contains upwards of 12,000 volumes and has branches over the county.

Tourist Attractions—Fort Benton is one of the historic towns of the west and is rich in Indian lore and traditions of the frontier settlements. Part of the old fort remains today. For many years Fort Benton was the chief fur trading point in the American northwest.

Cities and Towns—Fort Benton, the county seat, situated in the center of the county, is one of the oldest towns in Montana. With the passing of river navigation, its importance declined, but with the establishment of agriculture it has taken on a new lease of life. It is a modern community in all respects. Big Sandy, midway between Fort Benton and Havre, is the trading center for a wide and growing agricultural district, and has enjoyed a steady and rapid growth. Geraldine is the trading center for the southern part of the county. Other communities are Carter, Loma, Montague, Square Butte, Floweree and Highwood.

Special Opportunities—Diversified farming and dairying.

Climatological—Records showing mean annual precipitation and temperature are not available. See records of Havre (Hill county) and of Great Falls (Cascade county).

Digitized by Google

CUSTER COUNTY.

Date of Creation, February 2, 1865.

Land Area, 3,930 Square Miles.
County Seat, Miles City.
Altitude County Seat, 2,371.
Growing Season, 126-148 Days.
Population 1920, 12,194.
Population County Seat, 1920, 7,937.

General Description—Custer county lies in the southeastern part of Montana. It is one of the original counties of the state and for years was recognized as the center of the stockgrowing industry in the northwest. In late years agriculture has developed and is becoming more important all the time. There are about 25,000 acres of irrigated land in Custer county and plans are being made to utilize the waters of the rivers to a much greater extent. The horse sales yards at Miles City is one of the largest primary horse markets in the country. Custer has the longest growing season of any county in the state.

Surface and Soil—Custer county is a rolling, broken country with pronounced brakes along the Tongue and Yellowstone rivers. A considerable portion of the land is tillable. Most of the soil is a deep loam with a clay sub-soil that produces crops abundantly.

Crops—Wheat, oats, corn, alfalfa, millet, all kinds of root crops and vegetables do well, particularly under irrigation. Watermelons and cantaloupes are grown commercially. Corn has proven an especially good crop and more acres are being devoted every year to it, primarily to make silage for stock .

Drainage and Water Supply—The Yellowstone river, flowing northeasterly through the county, and the Tongue and Powder rivers, flowing northerly into the Yellowstone, are the principal streams. They have numerous small tributaries, making the county a well watered one.

Industries—Stockraising and agriculture are the chief industries. Large railroad shops are located in Miles City and some manufacturing is done there.

Mineral Resources—Lignite coal underlies many districts in the county, affording an economical and easily accessible fuel.

Timber—There is no commercial timber in the county. Cottonwood is found along the streams.

Land Values—Irrigated land sells from $100 an acre upwards. Improved non-irrigated land from $40 to $60; non-improved non-irrigated from $15 to $35, and grazing land from $5 to $12 an acre.

Transportation and Highways—The Northern Pacific and Chicago, Milwaukee and St. Paul railways parallel the Yellowstone river through the county. Miles City is a division point on the Milwaukee and large railroad shops are maintained there. The Yellowstone Trail, from Plymouth Rock to the Puget Sound, crosses the county.

Education—Rural schools are found in all communities; Miles City has good graded schools and the Custer County High school, accredited for a four-year term, is located there. Besides the usual courses it gives commercial, home economics and manual training work. The State Industrial School for Boys is at Miles City.

Tourist Attractions—Fort Keogh, prominent in the early history of Montana and now the largest remount station operated by the federal government, is near Miles City. Old time western cattle ranches are still operating in the southern end of the county. The Snow Creek Game Preserve in Garfield county, created through the efforts of W. T. Hornaday of the New York Zoological Society and pronounced by him well worth seeing, can best be reached from Miles City.

Cities and Towns—Miles City is the principal town in Custer county as well as in southeastern Montana. It is a distributing point for that part of the state and also for a part of Wyoming. The Milwaukee maintains large railroad shops there. Two saddle manufacturies ship their product to all parts of the world. Miles City is a modern and up-to-date community with good business blocks, handsome residences, a creamery, flour mill, several elevators and two daily and two weekly newspapers. It has a free tourists' camping ground. Kinsey, Beebe, Shirley, Ulmer and Calabar are among other villages in the county.

Special Opportunities—Mercantile and business openings, dairying and development of combined stockraising and agriculture.

Climatological—The average temperature and precipitation at Miles City are given as follows by the U. S. Weather Bureau:

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Temp..	14.5	16.8	28.6	44.7	56.7	66	72.9	71.5	61.2	46.5	30.9	21	44.2
Prec....	.62	.56	.76	1.18	1.98	2.77	1.37	1.03	.92	.78	.60	.62	13.19

Digitized by Google

DANIELS COUNTY.

Date of Creation, August 28, 1920.

Land Area, 1,422 Square Miles.
County Seat, Scobey.
Altitude County Seat, 2,458.
Population County Seat, 1920, 1,170.
Growing Season, 110 Days (estimated).

General Description—Daniels county lies in northeastern Montana and was created in 1920 out of the western half of Sheridan county and a small portion of Valley county. It is 48 miles long east and west and 30 miles wide north and south. It is purely an agricultural and stock raising district. Practically none of the land is irrigated.

Surface and Soil—Practically the entire surface of the county is tillable. The soil is a fertile chocolate loam, for the most part.

Crops—Flax, wheat, oats, corn and wild hay are the chief crops. Some sunflowers are being raised for silage.

Drainage and Water Supply—The Poplar River, rising in Canada, flows southerly through the middle of the county. Wolf Creek angles southeasterly through the southwestern corner of the county. There are a few smaller streams. No difficulty is experienced in finding wells.

Industries—For many years what is now Daniels county was a big cattle range. The grass was heavy and nutritious. In recent years there has been a big influx of settlers and most of the range has been filed upon and broken up into farms. Good crops are being raised in this county. There is still some live stock.

Mineral Resources—Lignite coal is found, but it is not of commercial importance.

Timber—There are no commercial stands of timber. Willow and cottonwood are found along the streams.

Land Values—Land sells from $10 to $60 an acre, depending upon location and improvements.

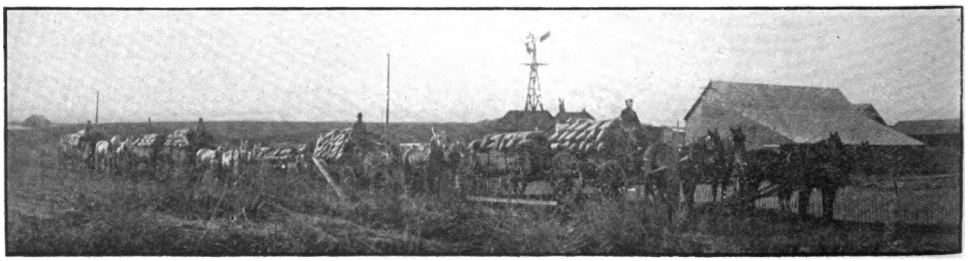
Transportation and Highways—A branch line of the Great Northern, leaving the main line at Mondak, runs through Roosevelt and Sheridan counties and then turns westerly. Its present terminus is at Scobey. A branch of the Soo line enters the county from the east and has its terminus at Whitetail, north of Scobey.

Education—Besides the rural schools there are graded schools at Scobey and a high school there, accredited for the four year course.

Cities and Towns—Scobey, the county seat, is the most important and largest community in the county and the main distributing point. Whitetail, on the Soo line, ranks next. Other communities are Madoc, Kraft, Flaxville, Orville, Julian and Navajo.

Special Opportunities—Development of the agricultural industry. Whenever the present branch lines of the railroads are extended on west there will be marked activity in the county.

Climatological—No records of the United States Weather Bureau are available for Daniels county.



Hauling Wheat to Elevator

Digitized by Google

DAWSON COUNTY.

Date of Creation, January 15, 1869.

Land Area, 2,430 Square Miles.
County Seat, Glendive.
Altitude County Seat, 2,071.
Growing Season, 104-131 Days.
Population County, 1920, 9,239.
Population County Seat, 1920, 3,816.

General Description—Dawson county lies in the extreme eastern portion of the state and from 15 to 20 miles west of the Dakota line. It is irregular in shape with a maximum length of 50 miles east and west, and a maximum breadth of 60 miles north and south. At Intake, Dawson county, are located the headgates of the Lower Yellowstone irrigation project, which irrigates about 90,000 acres of land, some of which forms part of this county. Another project in the process of realization lies north of the Yellowstone river between Fallon and Glendive and will cover about 30,000 acres. Sixty per cent of the land in the county is tillable, and the remainder affords excellent grazing.

Surface and Soil—Smooth prairie and rolling lands predominate in Dawson county. Around the Sheep Bluffs, in the northwestern part of the county and east of the Yellowstone river, there is some broken land. The soil is a dark sandy loam with a heavy clay sub-soil. The native cover is a heavy and nutritious grass.

Drainage and Water Supply—The Yellowstone River bisects the southeastern half of the county, while the Redwater river cuts its extreme northwestern townships. Many small and large creeks flow into these streams and furnish abundant and convenient facilities not only for watering stock, but also for small individual irrigation schemes, and water conservation projects. The matter of artesian well irrigation is also receiving considerable attention in the upper bench lands.

Crops—The principal crops are wheat, oats and barley, and in recent years as high as 900,000 bushels have been shipped in a single season from Glendive, the county seat. Other towns have also made large shipments. As high as 400 bushels of potatoes have been raised on one acre of unirrigated land and this product is becoming one of the prominent money makers of the county. The acreage in corn is rapidly increasing. In 1915 Dawson county won the first and second prizes on Northwestern Dent corn at the St. Paul Corn Show. In December, 1916, at the First National Corn Show, held in St. Paul, Minn., Dawson county took first and second and three third prizes. The corn acreage for 1920 in Dawson county will be as great as that of the entire state in 1910.

Industries—Agriculture and pure bred stock raising are the chief industries. The flour mills and creameries come next. The production of hogs and poultry is being aggressively pushed. Dairying is growing rapidly; the county contains the finest dairy farm in the state.

Mineral Resources—Dawson county lies in the heart of the western third of the Fort Union region. Its lignite coal is so plentiful and so readily mined that farmers and homesteaders have no difficulty in supplying themselves with fuel. The towns also burn it quite extensively. Natural gas has for some years past supplied the city of Glendive. This region also gives evidence of being a good oil field though deep-well drilling probably will be necessary. Several wells have already been sunk and additional efforts to find oil will be made this year. Excellent clays for pottery and brick making are also available.

Land Values—Irrigated land prices range from $100 to $200 an acre. Non-irrigated land can be purchased from $10 to $75, and grazing land from $10 to $15 an acre.

Transportation and Highways—The main line of the Northern Pacific railway traverses about one-half of the county. The Sidney branch of the same road covers about 25 miles of the county northwesterly from Glendive, the county seat. The Great Northern at present enters from the extreme northern portion and trminates at Richey, Dawson county. When extended westward this road may become a main line of the Great Northern railroad. Dawson county is traversed by the National Parks Highway or Red Trail, the Black Trail, the Green Trail, and the Blue Trail, all of which pass through Glendive.

Education—There are over 100 public grade schools in the county. The public schools of Glendive furnish not only the usual grade education but also manual training. The Dawson County High school is one of the best of its kind in the state. There is a dormitory in connection with the high school used for housing students from the rural districts.

Cities and Towns—Glendive, the county seat, is the largest city in the county, and also in the extreme eastern portion of the state. It is an important distributing center. It is the operating center of five hundred miles of railroad and the headquarters of the Yellowstone division of the Northern Pacific. Five hundred men are employed in the

Digitized by Google

Waterfall in Lincoln County

various departments of the company and the annual payroll is about $800,000. A new railroad depot which will cost approximately $100,000 will be built in the near future. The Northern Pacific railway hospital, which cost $125,000, is located here. It is a modern city with substantial business blocks, beautiful homes, paved and graveled streets, and is lighted by electricity and natural gas. The natural gas is piped to the city from wells situated about twelve miles distant in the vicinity of Cedar creek. The city operates and owns an excellent municipal water system. It has two hospitals, seven churches, four grain elevators, modern flour mill, creamery, four department stores, in addition to dry goods, clothing and men's furnishings stores; several high grade hotels, four banks whose aggregate deposits are nearly $3,000,000, and a number of jobbing and distributing houses. Among other towns in the county are Richey, Stipek, Intake, Bloomfield, Union and Lindsay.

Special Opportunities—Special opportunities are agricultural development, dairying, specialized farming, jobbing and manufacturing, lignite coal and oil development.

Climatological—The mean temperature and precipitation at Glendive, according to the U. S. Weather Bureau, are as follows:

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Temp..	11.3	13.3	25.6	44	56.9	65.9	72.7	71.6	61.1	45.8	28.9	17.8	42.9
Prec....	.67	.61	1.07	1.05	2.51	3.25	1.66	1.30	1.18	.93	.52	.58	15.33

Digitized by Google

DEER LODGE COUNTY.

Date of Creation, February 2, 1865.

Land Area, 746 Square Miles.
County Seat, Anaconda.
Altitude County Seat, 5,288.
Growing Season, 86 days.
Population County, 1920, 15,323.
Population County Seat 1920, 11,668.

General Description—Deer Lodge county, one of the original nine counties in the state, lies on the western edge of the continental divide in the mid-western portion of the state. It is now one of the smallest counties in the state, but by reason of the great reduction works at Anaconda it is one of the richest. It is chiefly a mountainous region, agriculture and truck gardening being confined to the Deer Lodge valley, along Warm Springs creek and the Big Hole river.

Surface and Soil—The tillable portions of the county are in the northern end and in the southwestern portion of the county. The remainder of the county is either grazing, timber or mineral land.

Crops—Hay and grain and vegetables are the chief crops, Anaconda and Butte furnishing a ready market for the latter.

Drainage and Water Supply—The Big Hole river, forming a portion of the southern boundary of the county, and the Deer Lodge river, through the northern part, are the chief streams. Numerous tributaries rising in the high mountains feed these streams.

Industries—The Washoe smelter of the Anaconda Copper Mining Company is the largest and most modern ore reducing plant in the world and employs thousands of men. About one-fourth of the copper ore treated in the United States is smelted in this plant. The ores are brought from the mines at Butte, 28 miles distant, directly to the smelter by the Butte, Anaconda & Pacific railroad, which was built for this traffic, and which is operated exclusively by electricity. An extensive sulphuric acid plant is operated in connection with the smelter, and a plant was erected this year for the manufacture of super-phosphate fertilizer. This fertilizer plant will develop into a big undertaking, it is expected. A good start has been made in establishing pure herds of sheep and dairy cattle.

Mineral Resources—Many quartz veins, carrying gold and silver values, have been discovered in the mountainous regions, and a number of them have been developed into profitable producers. It is believed that further development and exploration will bring others into the same class.

Timber—There are 305,140 acres of the county included within the Deer Lodge National forest. Considerable timber is cut each year.

Land Values—The county assessor's report for 1919 shows there are 152,507 acres of patented farming and grazing land. Irrigated land prices range from $50 to $100 an acre, non-irrigated farm lands from $15 to $50, and grazing land from $6 to $10 an acre. There are 4,154 acres of patented mineral ground in the county.

Transportation and Highways—The Northern Pacific and Chicago, Milwaukee and St. Paul main lines to the coast traverse the northern part of the county, making connections with the Butte, Anaconda and Pacific that serves Anaconda. Many trains are run daily both ways between Anaconda and Butte, giving the former city connection with the Oregon Short Line and Great Northern as well as the Northern Pacific and the Milwaukee. Deer Lodge county highways are among the best in the state. Construction of a highway, paved with concrete, between Anaconda and Butte is now under way. Incidentally, this is the only hard surfaced road in the state connecting two cities.

Education—Anaconda has a splendid system of graded schools and a high school accredited for the four-year term. There are also parochial schools in Anaconda. Rural schools are well kept up.

Tourist Attractions—The smelting works at Anaconda, including the highest smokestack in the world—585 feet in height. The scenery near Anaconda is magnificent. Thirteen miles up the canyon is Silver lake, a beautiful body of mountain water, from which the city, as well as the smelter, derives its water supply; two miles further on is Georgetown lake, seven miles in circumference. These lakes are surrounded by snow-capped mountains whose mighty peaks are reflected in the crystal waters, making scenes of grandeur and beauty which can never be forgotten. Georgetown lake is famous as a fishing center and affords excellent duck shooting in season. Should the traveler desire to abandon the main highway for a spell, and travel a road more scenic and romantic,

Digitized by Google

Noon in the Lumber Camp

you may go, as we say, "Over the hill west," by a magnificent hard gravel road. You will pass within sight of the old Cable mine, one of the richest gold mines of the earlier days, and by the roadside you will see a number of old arrastres, or water-power mills of former days, for reducing free milling gold ore to a commercial product.

Cities and Towns—Lying at the mouth of a canyon where plain and mountain meet, Anaconda, the county seat, owes its existence to Marcus Daly, founder of the copper industry in Montana, who was attracted to it by the presence, so near Butte, of an abundant supply of water. It has grown into a modern city, is an attractive place of residence, has one of the most costly hotel edifices in the state, many large business blocks, handsome dwellings, a daily newspaper, and manufactures fire and building brick. The county courthouse, the Hearst library, and the Margaret theater would be notable buildings in a much larger city. The Montana state fish hatchery is located at Anaconda in the beautiful Washoe park. From here each year are sent thousands of fry to repopulate the strams and lakes of the state, to supply sport for the nimrods. At Warm Springs is located the state asylum for the insane, costing $500,000 or more. On the farm attached to the institution is maintained the finest herd of pure-bred Holstein cattle in the state. At Galen, near Warm Springs, is the state tuberculosis sanitarium.

Special Opportunities—Development of manufactories that will utilize by-products from the smelter.

Climatological—The mean temperature and precipitation at Anaconda, as shown by the records of the U. S. Weather Bureau, are given as follows:

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Temp..	24.0	24.6	31.7	40.8	48.2	55.3	62.7	61.2	53.6	44.5	35.1	25.5	42.7
Prec....	.97	.62	.81	.86	2.27	2.48	1.18	.91	1.26	.90	.75	.64	13.65

Digitized by Google

FALLON COUNTY.

Date of Creation, December 9, 1913.

Land Area, 1,685 Square Miles.
County Seat, Baker.
Altitude County Seat, 2,936.
Growing Season, 107 days.
Population County, 1920, 4,548.
Population County Seat, 1920, 1,067.

General Description—Fallon county lies in eastern Montana, about midway between the northern and southern boundaries of the state, with the Montana-Dakota line its eastern boundary. For years a stockgrowing region, agriculture has made big strides within the last decade. There is but little irrigated land, 95 per cent of it being farmed by non-irrigated methods. Large natural gas wells have been discovered and prospects are considered favorable for oil.

Surface and Soil—Extensive valleys follow the courses of the streams and back of these valleys are broad stretches of bench land. The soil is chiefly a chocolate loam. Some gumbo is found.

Crops—Wheat, oats, flax and corn are the chief crops. The acreage in non-irrigated alfalfa is increasing.

Drainage and Water Supply—There are no rivers of importance in the county, but Fallon creek and Pennel creek, together with a number of smaller streams, flow through it.

Industries—Agriculture and stockraising.

Mineral Resources—Much attention is being given the gas and oil resources in Fallon county. Good flows of gas have been encountred in wells near Baker, and it has been piped into the town and is used for heating, lighting and power purposes. Much prospecting is being done for oil.

Timber—There are no commercial stands of timber in the county. Cottonwood is found along the streams.

Land Values—Land prices vary from $15 to $75 an acre, depending upon location and improvements.

Transportation and Highways—The main line of the Chicago, Milwaukee and St. Paul railway traverses the county east and west. The Yellowstone Trail enters Montana through Fallon county.

Education—Besides the rural schools in the country districts, common schools are found in the towns, and besides good graded schools in Baker, that town has a high school accredited for the four-year term.

Cities and Towns—Baker, the county seat, is the most important town in the county. It is the distributing point for a large territory, and has enjoyed a consistent growth. Kingmont, Westmore and Plevna are other towns on the line of the Chicago, Milwaukee & St. Paul.

Special Opportunities—Diversified farming, dairying and manufactories that can utilize the flow of the natural gas wells.

Climatological—Records showing the mean temperature and precipitation are not available. See records of Glendive (Dawson county) and of Miles City (Custer county).

Potatoes Grown Near Hingham

Digitized by Google

FERGUS COUNTY.

Date of Creation, December 1, 1886.

Land Area, 7,178 Square Miles.
County Seat, Lewistown.
Altitude County Seat, 3,960.
Population County, 1920, 28,344.
Growing Season, 99-127 Days.

General Description—Fergus county lies in the central part of Montana with a length of 122 miles at its longest point and a maximum width of 78 miles. More counties border on Fergus than any other county in the state. Six hundred thousand acres are under cultivation while 1,755,750 acres are potential farm land. One hundred thousand acres are now or will be under irrigation, mostly for hay crops. Projects on Judith river, Flatwillow and Box Elder creeks in eastern Fergus, and a large project is in construction on Warm Springs. The Flatwillow project will eventually irrigate 25,000 acres.

Surface and Soil—Judith Basin, famous the world over, lies in the western part of Fergus. It extends 90 miles north and south and 60 miles east and west, having 2,000,000 acres of fertile land. The soil is a dark brown loam underlaid with clay formation, mixed with lime gravel subsoil. The basin is surrounded by mountain ranges which protect it from severe winter conditions. On the north are the Little Rockies, on the west the Highwood, and Belts; on the south the Big Snowies, and on the east the North Moccasins, South Moccasins and the Judith mountains. The eastern portion of Fergus is more broken and rolling. The greater portion is fit for agriculture and stock production.

Crops—Principal crops are wheat, oats, barley, rye, potatoes, alfalfa, timothy, corn and sweet clover.

Drainage and Water Supply—The water and drainage system of western Fergus is carried by the Judith river and branch streams. In the eastern part the Musselshell with its tributaries carry the drainage waters into the Missouri. At almost any point in the basin an ample water supply of good quality may be had. The depths at which water may be reached varies with character of soil and bed rock. Good artesian wells are found in some sections.

Industries—Main industries are agriculture, stockraising, manufacturing and mining. Good grade coal is mined in central Fergus, gold mining is carried on at Kendall, while silver and gold are found in the Judith mountains. The large sapphire mines in the Little Belts of western Fergus supply a portion of the world markets. There are large flour mills, creameries, tile and brick factories and cement factory in and around Lewistown. There are 70 elevators in the county, which in number and business outrival any other part of the country of similar size. The latest industry is oil. It is being developed on a great scale in all directions from Lewistown, particularly in the eastern part. Large tracts in the Snowies and on the slopes of the Judith mountains are covered with suitable lumber timber.

Land Values—Land values are difficult to standardize; they run, however, from $20 to $80 per acre for unirrigated and up to $100 for irrigated bottom lands. Grazing lands bring from $10 to $20 per acre.

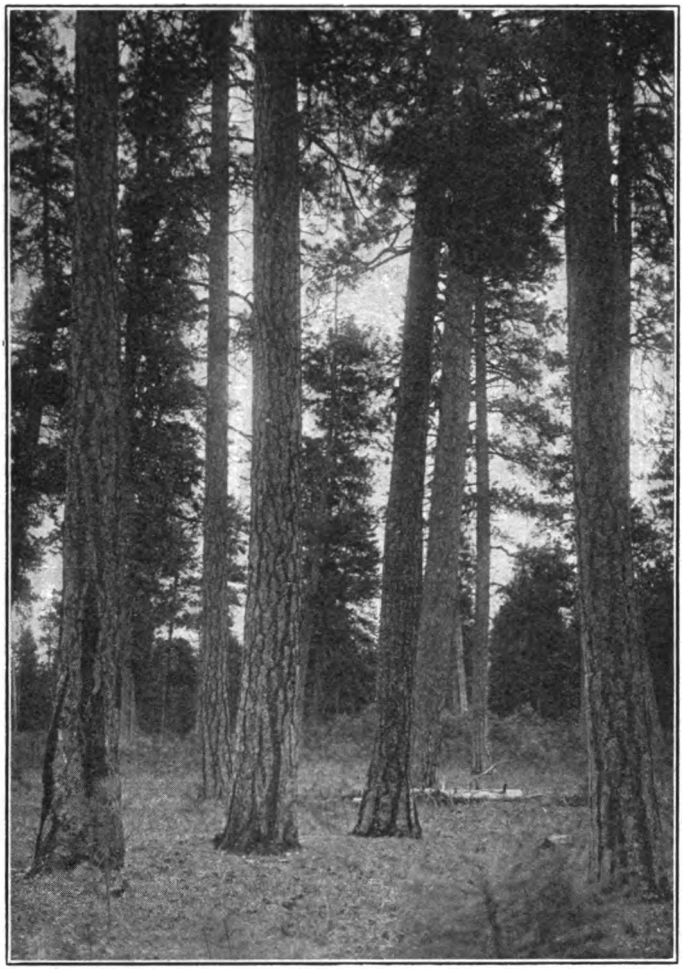
Transportation and Highways—Six railroad lines traverse Fergus county in all directions. Future work, it is expected, will place two main coast lines through the county. The Milwaukee has two lines running north from Lewistown tapping a fertile district. Lewistown is on the Red Trail from Chicago and Minneapolis, and on the Custer Battlefield Highway from Omaha to Glacier Park. Fergus has an aggregate of 6,500 miles of highway.

Education—The 187 school districts of the county have a total of over 280 school buildings. Over 400 teachers are employed. The county high school at Lewistown offers an exceptionally strong course in agriculture.

Tourist Attractions—The varied scenery of Fergus makes of it a picturesque tourist ground. The different mountain groups with their excellent visibility throughout the county are very impressing. Caves, sinks, arches and natural bridges abound to delight the seeker of sights. There are ice caves in the Snowies west of Half Moon Pass where ice is formed through the summer. Crystal lake, a beautiful tourist camping ground, lies in the Snowies in the west fork of Rock Creek canyon.

Cities and Towns—Lewistown, the center of activities and the county seat, has a municipal water system, fine office buildings, churches and public buildings. It has four wholesale houses, two creameries, a brick yard, tile works, flour mills, good hotels and modern stores. Its four banks have an aggregate of deposits amounting to $10,000,000. There are five miles of pavement, four public schools and one $300,000

Digitized by Google



Yellow Pine Near Libby

county high school. Moore, Garniel and Straw, on the Milwaukee south of Lewistown, are in the center of a rich farming section. Denton, the largest town in northwestern Fergus, has a flour mill, elevator and up-to-date stores and hotels. Buffalo, on the Great Northern, is surrounded by splendid farms and ranches. Hanover has a large cement factory. North of Lewistown lie Roy and Winnifred. Immense grain growing and stockraising sections are adjacent to them. Kendall, a gold mining camp five miles from Hilger, has produced over $5,000,000 in gold. Grass Range and Teigen lie in eastern Fergus and are surrounded by agricultural and stockraising country. Winnett, in the oil district of eastern Fergus, is the terminal of the Milwaukee railway and lies on the contemplated main line of the Great Northern. Two large private irrigation projects are in operation from there.

Special Opportunities—Splendid opportunities in diversified farming, dairying and stockraising are within reach in the county. The power sites on the Judith river and Spring creek give great possibilities for manufacturing plants. The ease in obtaining coal and other fuel enhances this greatly.

Climatological—The mean temperature and precipitation at Lewistown, as determined by the U. S. Weather Bureau, are as follows:

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Temp..	20.1	21.6	30.2	40.9	50.4	58.5	61.1	63.3	55.1	43.3	33.5	25.3	41.9
Prec....	.88	.89	1.20	1.43	3.24	3.62	2.38	1.47	1.80	1.30	.85	.80	19.86

Digitized by Google

FLATHEAD COUNTY.

Date of Creation, March 1, 1893

Land Area, 6,380 Square Miles.
County Seat, Kalispell.
Altitude County Seat, 2,946.
Population County, 1920, 21,705.
Population County Seat 1920, 5,147.
Growing Season, 71-149 days.

General Description—Flathead county lies west of the main range of the Rocky Mountains in the northwestern part of Montana. British Columbia marks its northern boundary. It is flanked on the east and west by magnificent, timbered mountain ranges, has many fine, fertile valleys, over 300 lakes, several national forests, a part of an Indian reservation, and is joined by the Glacier National Park on the east. It is approximately 101 miles long, north and south, and 65 miles across, east and west, at its widest point. The southern part of the county is included in the government reclamation project of 152,000 acres. Water is being furnished for 40,000 acres. There are about 10,000 acres irrigated from private ditches. Irrigation by pumping has proven successful and is being expanded.

Surface and Soil—Considerable of Flathead county is mountainous. The cultivatable land is mostly rolling and the soil is a deep sandy loam. There are about 150,000 acres of logged-off lands in the county, which when cleared, raise all kinds of crops abundantly. It is estimated it costs from $75 an acre up to clear these lands. Much of it is sub-irrigated.

Crops—Wheat, oats, barley and rye are the principal crops. Alfalfa, clover and timothy do exceptionally well and the acreage in these grasses is being enlarged. Vegetables do well and this year potato growing was launched on a big scale, from 3,000 to 5,000 acres being seeded under contract. The hardier kinds of fruits and berries are successfully raised. Apples are the only fruit raised so far on a commercial scale.

Drainage and Water Supply—The county lies in the basin drained by the Flathead river and its numerous tributaries. Flathead lake is the largest fresh water lake in the United States, exclusive of the Great Lakes. Well water is obtained at an average depth of 40 feet in most parts of the county.

Industries—Agriculture, horticulture, stockraising and lumbering are the chief industries. Tourist travel is increasing and resorts are being built to handle it.

Mineral Resources—The mountains in Flathead county are known to contain various kinds of minerals, but exploration and development has not been carried far enough to determine their commercial possibilities.

Timber—Flathead county is one of the best timbered counties of the state. There are 2,232,418 acres included in national forests, 200,000 acres of state timber land and more than 100,000 acres of timber belonging to the Indians. There are also large private holdings of timber.

Land Values—First class farm land, well improved, sells at $100 to $125 an acre. Some farm land can be bought at $75 to $80 an acre. Cut-over stump land sells from $5 to $25 an acre, depending upon location and topography. Irrigated land brings from $200 to $300 an acre.

Transportation and Highways—The main line of the Great Northern traverses the county east and west. Steamboats operate between Somers, at the north end of Flathead lake, and Polson, at the southern end, which is the terminus of a branch from the south of the Northern Pacific. Flathead county has more than 3,000 miles of highway. It is crossed by the National Parks Highway, the Yellowstone-Glacier Park Bee Line Highway, and has an automobile boulevard out of Kalispell around Flathead lake, 115 miles long, one of the most scenic roads in the northwest. There are automobile roads to the Glacier National Park, Swan lake, Whitefish lake, McGregor lake, Bitter Root lake, Stillwater lake, Lake Ronan, Camas Hot Springs and Thompson lake. There are hard-surfaced roads to Whitefish, Somers and Bigfork.

Education—All schools are graded and there are county high schools at Kalispell, Columbia Flats, Whitefish and Polson. The Flathead County High school at Kalispell offers strong courses in vocational work. It has over 700 students enrolled.

Tourist attractions—Magnificent scenery, excellent hunting and fishing and boating are some of the attractions for tourists. More summer homes have been erected on the shores of the various lakes in Flathead county than in all other counties combined. Many wealthy people from the east have been so captivated by the scenery that they have built permanent summer homes.

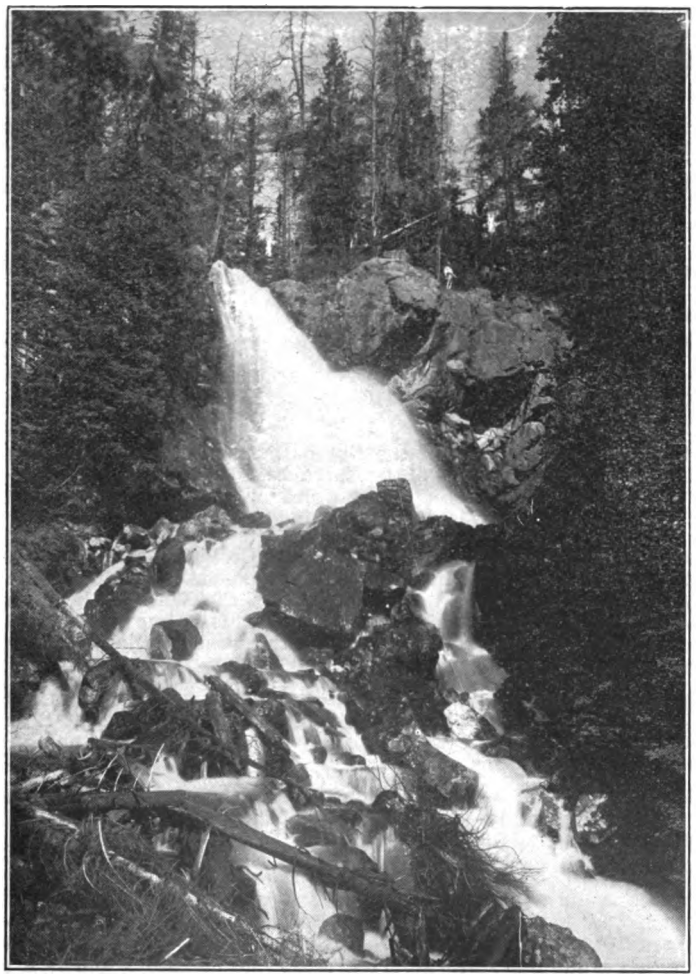
Digitized by Google

Cities and Towns—Kalispell, the county seat, is the largest town and chief trading center. Whitefish is a railroad division point. Polson, at the foot of Flathead lake, is tributary to the government irrigated project of 152,000 acres. The state soldiers' home is located at Columbia Falls at the north end of the valley. Bigfork, Dayton and Rollins are towns on the Flathead lake.

Special Opportunities—Diversified farming, stockraising and dairying. Some of the largest undeveloped water power sites in the United States are in the county The United States Forest Service has made studies which convince it there are opportunities for the establishment of paper mills in the county.

Climatological—The mean temperature and precipitation at Kalispell, as determined by the U. S. Weather Bureau, are as follows:

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Temp..	19.6	23.8	33.	42.5	51.	58.	64.3	62.9	53.9	42.5	32.	23.9	42.2
Prec....	1.59	1.46	1.08	1.06	2.03	1.74	.84	.89	1.33	1.17	1.90	1.85	16.94



Spanish Creek in Gallatin County

Digitized by Google

GALLATIN COUNTY.

Date of Creation, February 2, 1865.

Land Area, 2,529 Square Miles.
County Seat, Bozeman.
Altitude County Seat, 4,771.
Population of County, 1920, 15,864.
Population County Seat, 1920, 6,183.
Growing Season, 78-105 Days.

General Description—Gallatin county is located just west of the Bridger range of mountains in south central Montana. Its southern boundary extends to the Yellowstone National Park and the state of Idaho. The county is approximately 100 miles long, with an average width of about 25 miles. It contains about 150,000 acres of land under irrigation, and about a like amount of land that is cultivated without irrigation. The forest area in the southern portion of the county embraces 840,000 acres.

Surface and Soil—The Gallatin valley is located in Gallatin county. It comprises an area of very fertile land, about 20 miles in width and about twice that in length. The soil of this area consists generally of a rather heavy silty loam, ranging in color from light brown to almost black, and is particularly well adapted for the growth of small grain. The lower lands are well adapted for the growth of grass and hay crops.

Crops—Spring and winter wheat, oats, barley, peas, clover and alfalfa are the principal crops raised.

Drainage and Water Supply—The valley lands are irrigated from the waters of the West Gallatin river and its tributaries. The Missouri river finds its source in Gallatin county, at the confluence of the Jefferson, Madison and Gallatin rivers near Three Forks. The domestic supply of water for the towns in the county is obtained from mountain streams and rivers. The water is exceptionally pure and cold. Wells for domestic water are obtained at a depth of from 15 to 50 feet.

Industries—Agriculture, stockgrowing and the manufacture of flour and cereal products are the chief industries. Large herds of cattle and bands of sheep range in the southern part of the county. Flour mills are operated in practically all of the towns. The raising of peas for seed and canning purposes is an important industry, as is also the manufacture of dairy products. Gallatin is most widely noted for its production of grains and grasses.

Timber—The Gallatin and Bridger ranges of mountains are covered with timber. There are several small saw mills in the timbered region.

Land Values—Good irrigated land may be purchased for from $100 to $300 per acre, while non-irrigated land sells for $50 to $100 per acre, the wide difference in price being due to location and improvements.

Transportation—The main line of the Northern Pacific traverses the entire length of the Gallatin valley. The main line of the Chicago, Milwaukee and Puget Sound crosses the northern end of the county and is fed by a branch line originating at Bozeman. An electric railway is operated between Bozeman and Salesville.

Highways—The Yellowstone Trail traverses the Gallatin valley. Gallatin county is one of the first counties to build hard-surfaced roads. A splendid scenic highway is being constructed from Bozeman to Yellowstone, up the West Gallatin canyon to the western entrance of the Yellowstone National Park. This is known as the Gallatin Way, and is considered one of the most scenic drives in the west. Gallatin county has a road-building program involving an expenditure of $1,000,000.

Education—Gallatin county as a whole has a splendid school system. In addition to high schools in the smaller towns, the county high school is located at Bozeman. Bozeman is also the seat of the State College of Agriculture and Mechanic Arts, and the United States Experiment Station.

Tourist Attractions—The beautiful mountain scenery, the many streams and lakes, good hunting and fishing, and its proximity to the Yellowstone National Park have made Gallatin county headquarters for summer tourists.

Cities and Towns—The principal towns are Bozeman, Three Forks, Belgrade, Manhattan, Willow Creek and Salesville. Three Forks, with two railroads, has a population of 2,000 and is a modern little city, with its own water plant and well lighted by electricity. Manhattan is a milling and shipping point, at which place is located the Manhattan malting works. Belgrade has large flouring mills and elevators and is a grain buying and shipping point. Willow Creek is located in the heart of a prosperous agricultural district. At Trident there is a large cement factory employing a large number of men.

Digitized by Google

Logan is a junction point on the Northern Pacific railroad. Salesville, in the southern part, and Maudlow, in the northern part, are shipping points of importance. Bozeman is the metropolis and the county seat. The city is modern in every respect.

Climatological—Mean temperature and precipitation at Bozeman is given by the United States Weather Bureau as follows:

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Temp..	19.3	21.5	29.1	39.5	49.7	58.3	63.8	63.2	54.6	43.2	31.5	23.8	41.5
Prec....	.80	.84	1.21	1.72	3.64	3.12	1.26	1.05	1.72	1.39	.94	.98	18.67

GARFIELD COUNTY.

Date of Creation, April 1, 1919.

Land Area, 4,913 Square Miles.
County Seat, Jordan.
Altitude County Seat, 2,800 (estimated).
Growing Season, 124 Days.
Population County, 1920, 5,368.
Population County Seat, 1920, 813.

General Description—Garfield county lies in the east central part of Montana. The Missouri river marks its northern boundary and the Musselshell river its western boundary. It is one of the few counties in the state that has no railroad lines within its borders, though the Great Northern has surveyed a new main line that will cross the county east and west. Construction of this line has been done in Fergus county on the west and in Richland county on the east, and there is no doubt but that the gap of 150 miles will be linked up as soon as financial conditions permit. Garfield county, being practically undeveloped, offers splendid opportunities in stockraising and agriculture that will be realized upon as soon as it is given transportation facilities.

Surface and Soil—The surface is generally rolling. There are breaks along the Missouri river and the country is rough around the Piney Buttes in the northern part of the county. The bottom lands are very fertile. On the rolling benches the prevailing soil is a chocolate loam.

Crops—Alfalfa, wheat, oats, corn and rye are the principal crops, but because of the long distance to market at present, no attempt has been made to produce more than enough to supply local needs.

Drainage and Water Supply—Many small streams, tributaries of the Musselshell and the Missouri rivers and of Dry creek, rise in Garfield county. The center of the county is its highest point and the drainage is to every point of the compass. Water is found in wells at depths of 10 to 50 feet. In some districts artesian flows have been developed at depths ranging from 150 to 175 feet.

Industries—Stockraising is the chief industry at present. Agriculture is developing slowly. Much work is being done in explorations for oil.

Mineral Resources—Coal, principally lignite, is found in all parts of the county. Much drilling is being done for oil and producing wells have been found. More development is necessary before the size of the field and its importance will be determined. It is reported there are some potash deposits in the county. Chalk in sufficient quantities to be of commercial importance have been found.

Timber—Small pine of slight commercial importance is found along the Missouri and Musselshell rivers. Abundant growths of cottonwood are found along the creeks.

Land Values—Irrigated lands sell from $40 to $100 an acre, non-irrigated farm lands from $10 to $20 an acre and grazing lands from $5 to $10 an acre.

Transportation and Highways—Two transcontinental railroad lines have been surveyed through the county, and the Great Northern line will assuredly be built as soon as financial conditions permit. Construction of the second line is problematical. The Green Trail runs east and west through the county. There is a good highway from Miles City, Custer county, to Jordan.

Education—There are 95 schools in Garfield county, including a high school at Jordan accredited for the four year course.

Tourist Attractions—The Snow Creek Game Preserve, along the Missouri River in the northern part of the county, created through the efforts of W. T. Hornaday of the New York Zoological Society, is as remarkable for its weird scenery as for its wild game, which includes species that are almost extinct. The scenery in Hell Creek Canyon is pronounced as romantically attractive as some of the best found in the national parks. The old west of cowboys and cattle still flourishes in parts of Garfield county.

Digitized by Google

Cities and Towns—Jordan, the county seat, is the largest community in the county and the principal trading center. It is connected with Miles City by an auto stage, daily mail, telephone, and wireless. Edwards, Sand Springs and Mosby are trading centers in the west end of the county. Mosby is the center of the oil excitement at present and has grown rapidly. Cohagen is the chief trading center south of Jordan.

Special Opportunities—Stock raising and agriculture for the man who has patience to wait for the building of the railroad when land values will rapidly increase. Many business opportunities will then be found in the towns. Oil exploration work is attracting much capital into the county at present.

Climatological—Official records showing the mean temperature and precipitation are not available for the county.

GLACIER COUNTY.

Date of Creation, April 1, 1919.

Land Area, 1,309 Square Miles.
County Seat, Cut Bank.
Altitude County Seat, 3,698 Feet.
Growing Season, 77-102 Days.

General Description—Glacier county, lying in northwestern Montana, with the Canadian line as its northern boundary, and the eastern edge of the Glacier National Park as its western boundary, was created almost wholly out of the old Blackfeet Indian reservation. It is a well watered, rolling region, the northern part of which is ideally adapted to live stock raising. The southern part of the county enjoys a longer season, there is considerable irrigated land there, and agriculture is developing.

Surface and Soil—Glacier Park mountains jut over into the western side of the county. The northern part of the county consists of broad rolling prairies with low lying hills breaking the horizon. This is one of the best grass regions in Montana and for many years stock have grazed there during the summer and fall and waxed fat. The southern part of the county is level and contains some good soil. Here is found the Blackfeet irrigation project, containing 122,000 acres in all, most of which lie in Glacier county. Its development has been slow due to the fact that Indians own most of the land. Much of it is being leased to white settlers, however.

Crops—Wheat, barley, oats, flax and alfalfa do well. The claim is made that Glacier county has produced the greatest yield of flax per acre of any land in the world.

Drainage and Water Supply—Glacier county is one of the best watered counties in the state. The drainage is to the north and to the east, waters of St. Mary's river flowing eventually into Hudson Bay, and the Milk River into the Gulf of Mexico.

Industries—Stock raising, agriculture and some lumbering are the chief industries. Agriculture has been least developed.

Mineral Resources—As prospecting has never been permitted on Indian reservations, the mineral resources of the county are problematical. It is known to contain coal, and geologists believe there are possibilities of oil.

Timber—There are 32,256 acres of the Lewis and Clark National Forest included within the county. In addition there are about 50 square miles of land covered with timber, but little of it is of a merchantable character.

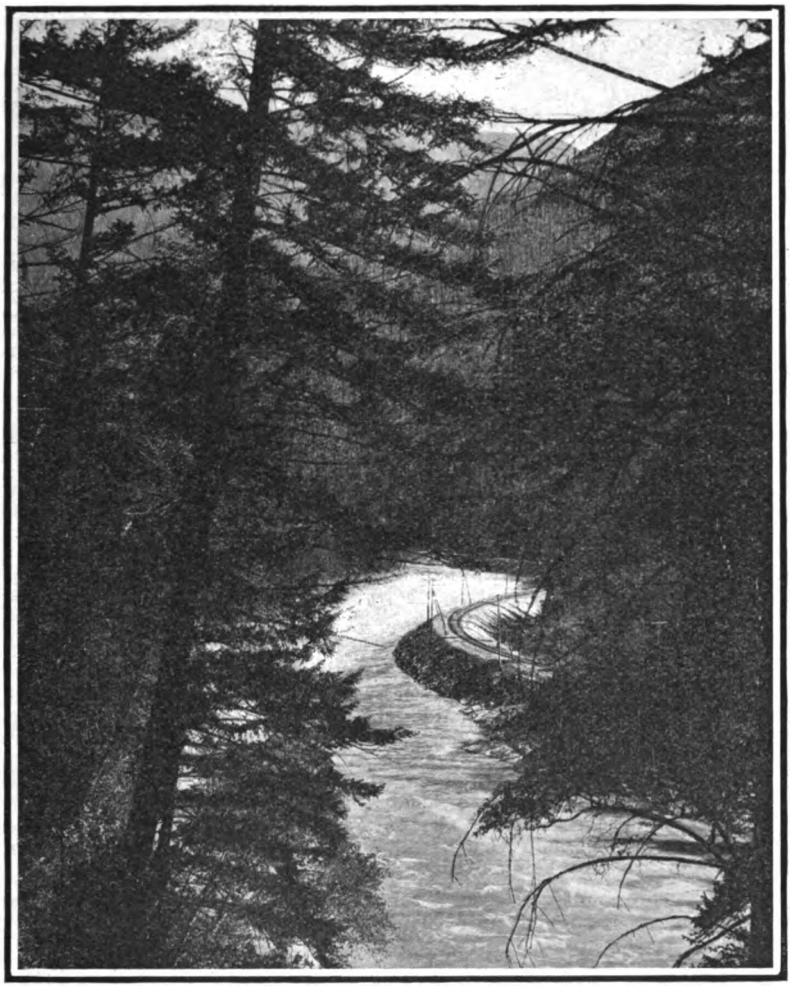
Land Values—Land, both irrigated and grazing, ranges in price from $15 to $50 an acre.

Transportation and Highways—The main line of the Great Northern traverses the county east and west. A splendid highway along the eastern side of the Glacier National Park connects with local Glacier county roads. The Roosevelt Memorial Trail from the east traverses the county.

Education—In addition to the rural schools, common schools are found in the chief communities, there is an Indian school on the reservation part of the county, while Cut Bank, the county seat, maintains a high school accredited for the four year term.

Tourist Attractions—Indian scenes on the reservation, hunting and fishing.

Digitized by Google



In the Picturesque Flathead

Cities and Towns—Cut Bank, the temporary county seat and main city of the county, has a population of about 1,500. It has a municipal water system, sewer system, electric lights, good streets and walks. Its business men are thriving and progressive. It has a very fine school system, well equipped, and with an accredited high school, two churches, Protestant and Catholic; two banks, a newspaper and various other businesses.

Browning is the headquarters of the Indian Agency, and a town of about 600 people. It is located in the center of the reservation and about two miles off the railroad. This year the government threw open the townsite, the town was incorporated, and a great many improvements are now under way.

Glacier Park is a scenic little village at the main entrance to the national park, where the largest hotel in the park is situated.

Special Opportunities—Agriculture and stock raising.

Climatological—The mean annual temperature and precipitation at Cut Bank, as given by the records of the U. S. Weather Bureau, follow:

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Temp..	16.6	19.2	27.4	38.6	48.9	56.1	61.3	60.6	52.0	40.2	30.6	22.9	39.5
Prec....	.54	.61	.86	.77	2.64	2.79	1.77	1.19	1.77	.93	.98	.53	15.38

Digitized by Google

GOLDEN VALLEY COUNTY.

Date of Creation, October 4, 1920.

Land Area, 1,111 Square Miles.
County Seat, Ryegate.
Altitude County Seat, 3,638.
Population County, 1920, 5,000 (estimated.)
Population County Seat, 1920, 405.
Growing Season, 100-130 Days.

General Description—Golden Valley county, which was formed from the western part of Musselshell county and the northern part of Sweet Grass county, is one of the most compact small counties in the state. It lies south of the Snowy Mountains—in fact, about two townships of the unsurveyed portion of the Snowy Mountains are included in the county. The Musselshell River traverses the county east and west. There are a number of small streams feeding into the Musselshell River, both from the north and south. Fish Creek and Big Coulee Creek from the south; Careless Creek and Currant Creek from the north, feed into the Musselshell River. These streams and valleys give sufficient water supply for successful irrigating throughout the entire season. About eighty-five per cent of the area of the county is plow land, a large portion of which is now under cultivation. The soil is a rich clay loam which is mixed with considerable sand on the benches and of a gumbo nature along the creeks and in the valleys. Both irrigated and non-irrigated farming has been carried on for the past ten years with success.

There are fourteen grain elevators and one flour mill operating in the county. There are five banks with totals of about two million dollars which are financing this section of the state very satisfactorily. One very successful creamery is being conducted in Ryegate. The output of last year was about $75,000 worth of butter. The main line of the Chicago, Milwaukee & St. Paul railroad follows the Musselshell River from east to west. The Great Northern railroad crosses the county from north to south. These two railroads give ample railroad service to all the interests of this county. There are four splendid new high school buildings at Ryegate, Lavina, Belmont and Barber.

Mineral Resources—Coal is found in many localities in various parts of the county. There are now five small coal mines being operated for commercial purposes. The coal is of excellent quality for domestic and steam use. The first trace of oil that was ever discovered in the state was in the famous Woman's Pocket, September, 1919. At present there are five large standard oil rigs operating within the boundaries of this county. The geologists have located and surveyed five distinct structures within the county's borders, known as the Pole Creek Field, the Woman's Pocket Anticline, the Dead Man's Basin Dome, the Fish Creek Structure and the Big Coulee Dome, all of which are now being drilled.

Land Values—The county assessor's report for 1920 shows the land values ranging from $20 per acre to as high as $200 per acre. The grazing land ranges from $6 to $10 per acre.

Tourist Attractions—Golden Valley county is fortunately situated so that it is enjoying the tourist travel of two important highways. The Buffalo Trail Highway, which the tourists travel from Cody, Wyoming, to Billings, Great Falls and the Glacier National Park, is a Park-to-Park Highway. It has one of the best futures of any highway in the state. In addition to the fact that it is a Park-to-Park Highway, it crosses the Shoshone Irrigation Project, Yellowstone Valley, the Musselshell Valley, the oil fields, the great Judith Basin, the Great Falls of the Missouri and the High Line. This affords the tourists a variety of scenery and gives a splendid idea of tne wealth of the state. The Electric Highway, which is a short cut from Forsyth to Helena and Missoula, also crosses the county east and west.

Special Opportunities—The agricultural possibilities have only begun. Dairying will be increased many times. Irrigation projects will be completed. Hotels are needed. Any one interested in oil development and coal mining will do well to investigate this territory.

Climatological—The precipitation for 1920 was 19½ inches, it is unofficially reported.

Digitized by Google

GRANITE COUNTY.

Date of Creation, March 2, 1893.

Land Area, 1,728 Square Miles.
County Seat, Philipsburg.
Altitude County Seat, 5,175 Feet.
Growing Season, 60-80 Days.
Population County, 1920, 4,167.
Population County Seat, 1920, 1,500.

General Description—Granite county lies in the middle western part of Montana. Much of its territory is mountainous. The Continental Divide crosses its southeastern border and a spur of the Rocky Mountains defines its western boundary line. It first came into prominence because of its mineral resources, but in later years agriculture and stock raising have become important.

Surface and Soil—The agricultural areas of the county are principally confined to the Flint and Rock Creek Valleys and to the Hell Gate River Valley. High mountains protect these valleys, which are among the most fertile in the state. The soil is alluvial, rich and deep. Water is abundant and more irrigated than non-irrigated farming is practiced.

Crops—Oats, wheat, barley, flax, vegetables, alfalfa, timothy and clover are the chief crops.

Drainage and Water Supply—Rock Creek and Flint Creek, rising in the high mountains in the southern end of the county, empty into the Hell Gate River which runs westerly through the northern end of the county. These streams have many small tributaries.

Industries—Mining is the principal industry. The Granite Bi-Metallic mine at Philipsburg is alone credited with a production, chiefly in silver, of more than $50,000,000 to date. During the war much manganese was produced. Live stock raising ranks second in importance and is followed by farming and dairying.

Mineral Resources—Silver and manganese are the chief mineral resources, though there has been some production of gold, lead and zinc. Large phosphate beds have been located, but their commercial importance has not yet been determined. Lignite coal is found in the county.

Timber—There are large stands of commercial timber in the county. Besides private holdings, there are 54,760 acres of the Deer Lodge National Forest included within the county, and 677,236 acres of the Missoula National Forest.

Land Values—Improved irrigated land ranges in price from $50 to $100; unimproved irrigated land, $20 to $40, and unimproved non-irrigated land from $10 to $20 per acre.

Transportation and Highways—The main lines of the Northern Pacific and the Chicago, Milwaukee & St. Paul railroads cross the northern end of the county, and the Northern Pacific has a branch running southerly from Drummond on the main line to the county seat, Philipsburg. A highway is projected across the county from Anaconda westerly to Hamilton in the Bitter Root Valley.

Education—Rural and common schools are found throughout the county. At Philipsburg a county high school with an accredited four year course is maintained which, in addition to the usual courses, has courses in agriculture and teacher training. There is a high school at Drummond, accredited for a two year course.

Tourist Attractions—The mines around Philipsburg and Maxville; sapphires in the West Fork district, the deposit of which is asserted to be the largest in the world, not excepting that of Burma, India. Hunting and fishing, good sport of both kinds being found.

Cities and Towns—Philipsburg, the county seat and principal town, is a terminus of a branch line of the Northern Pacific. It is located on a commanding position on a terrace of Flint Creek Valley, has good drainage, water system, electric light plant, court house, fine homes, business houses, and two banks carrying deposits of over $1,000,000.

Hall, in the Flint Creek Valley, is the center of a farming section, has a number of business establishments, is within easy reach of lignite coal mines, and controls the trade of a populous farming district.

Digitized by Google

Drummond, on the main line of the Northern Pacific railroad, where the Philipsburg branch starts, is the trading center for the northern end of the county, has mercantile houses, a newspaper, and a large new up-to-date sawmill.

Special Opportunities—Further development of the mineral resources, pure bred live stock raising and dairying.

Climatological—The mean temperature and precipitation at Philipsburg, as shown by the records of the U. S. Weather Bureau, are:

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Temp..	22.6	24.1	31.6	42.2	47.8	55.0	61.8	60.5	53.1	43.5	33.5	24.9	41.7
Prec....	0.74	0.77	0.98	1.24	2.65	3.0	1.36	0.83	1.44	1.32	1.03	0.39	15.75

HILL COUNTY.

Date of Creation, February 28, 1912.

Land Area, 2,884 Square Miles.
County Seat, Havre
Altitude County Seat, 2,480 Feet.
Growing Season, 101-126 Days.
Population County, 1920, 13,958.
Population County Seat, 1920, 5,429.

General Description—Hill county lies in the center of the northern tier of counties with its northern boundary line defining the Canadian boundary. Hill county is practically square, about sixty miles in length and width, though the southeastern corner is irregular in shape, where it extends into the Bearpaw Mountains. This southeastern section is the location of the Rocky Boy Indian Agency. The state maintains the Northern Montana Agricultural Experiment Station at Fort Assinniboine, near the county seat.

Surface and Soil—With the exception of the Bearpaw Mountains, which occupy a considerable area, the county is rolling prairie, with bench lands and many coulees in all parts adjacent to streams. The soil is sandy loam of richness and fertility.

Drainage—The Milk River, one of the longest rivers in Montana, traverses the county from northwest to southeast and receives many small streams as tributaries. Sage, Box Elder and Beaver Creeks are also sizable streams which furnish some water for irrigation.

Crops—Wheat and flax are the largest crops grown, but oats, speltz, barley and rye are grown successfully and potatoes have proven excellent in yield and quality. Corn and sunflowers are more and more grown for silage. Garden vegetables of all kinds do well.

Tourist Attractions—The Bearpaw Mountains, in the southeastern part of the county, are a playground furnishing rest and recreation for people from long distances. This region, besides its beautiful mountain scenery, is of historic interest for it was here that General Howard's troops finally captured Sitting Bull after a long and hazardous campaign. Old Fort Assinniboine is now the seat of an agricultural experiment station which is of interest and value to those interested in dry farming anywhere, as the experiments conducted are general in character. The station is so conducted that it is of interest to the casual visitor as well as to the farmer. The old fort itself, of which many buildings are still kept in repair, is reminiscent of the frontier days of the northwest and was the scene of many Indian raids and expeditions. United States troops stationed here worked in connection with the troops at Fort Missoula and Helena and with the Canadian Mounted Police to make the territory of Montana and the Canadian border safe for the pioneers who settled this state, many of whom are still living within its borders.

The so-called Bad Lands along the Milk River occupy a large region in the vicinity of Havre and are remarkably picturesque. These peculiar formations are little known in comparison with the Bad Lands of Dakota and eastern Montana but they are quite as notable and as interesting from both the scenic and geological point of view.

Cities and Towns—Havre, the county seat, is the largest city within the county but there are a number of prosperous towns along the "High Line," among them Hingham, Rudyard, Gildford, Kremlin and Fresno. The towns of Laredo and Box Elder are on the Great Falls branch of the Great Northern. There are a number of small inland towns also. Havre is a railroad division point and is a modern and up-to-date community and a big distributing point.

Digitized by Google

Young Orchard Near Miles City

Industries—Farming, stock raising and dairying. Coal is mined, principally in the winter, when labor from the farms can be utilized, though some of the mines are operated all the year.

Minerals—Coal is found in sufficient quantities to be mined profitably and is of good quality. Natural gas is a well established fact and there is much prospecting for oil at present.

Land Values—The county assessor's report for the year ending July 12, 1920, lists 3,025 acres of irrigated land, 1,016,189 acres of non-irrigated farm land and 321,569 acres of grazing land. There are also listed 268 acres of coal land and 16,705 acres of state land, most of which is under sale contract. Irrigated land is valued at from $30 to $100 and dry land from $8 to $50.

Transportation and Highways—The main line of the Great Northern traverses Hill county from east to west and the Great Falls-Butte branch runs southwest from Havre. The Roosevelt highway runs through Havre on its way to Glacier Park.

Education—Hill county reports 104 schools, which includes the Havre public school with its more than sixty teachers, the graded schools of Kremlin, Gildford, Box Elder, Hingham and Rudyard, and several others. There is a large parochial school connected with St. Jude Thaddeus church in Havre and an Indian school at the Rocky Boy Agency which has about 120 pupils.

Special Opportunities—Dry land farming, though followed here since the first settling of the county, is still in its infancy and with improved methods is slowly gaining. Irrigation also is possible in many parts of the county and two large projects are already planned. If these are carried out the remarkably fertile soil will make this a county of great possibilities in diversified and intensive farming. Dairying should be developed, as should also market gardening.

Climatological—The mean annual temperature and precipitation at Havre are given by the United States Weather Bureau as follows:

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Temp..	13.5	15.0	27.3	42.7	54.1	62.4	68.1	66.9	57.6	43.6	30.6	21.2	41.9
Prec....	.69	.47	.48	1.01	2.09	2.82	1.92	1.26	1.03	.50	.77	.63	13.67

Digitized by Google

JEFFERSON COUNTY.

Date of Creation, February 2, 1865.

Land Area, 1,642 Square Miles.
County Seat, Boulder.
Altitude County Seat, 4,919 Feet.
Growing Season, 82-121 Days.
Population County, 1920, 5,203.
Population County Seat, 1920, 461.

General Description—Jefferson county lies in the west central portion of the state. It is about 60 miles long north and south by 40 wide. Elevations range from 4,100 feet in the Jefferson Valley at the southern end to 4,919 at Boulder in the Boulder Valley and upwards of 7,000 feet in the mountain ranges. Farming, dairying, stock raising and mining are the chief industries.

Surface and Soil—Aside from the valleys—the Boulder, the Jefferson, Prickly Pear Creek and a number of smaller streams, the surface of the county is rugged. The Continental Divide is the western boundary, and several smaller spurs jut the county. The soil is alluvial and rich. The southern part of the county is more adapted to agriculture than the northern.

Crops—Oats, wheat, rye, potatoes and hay are the chief crops, most of the produce being marketed in Butte and Helena.

Drainage and Water Supply—The Jefferson River, flowing along the southeastern boundary, is the largest stream, and then comes the Boulder River, rising in the northern part of the county and flowing southerly, emptying into the Jefferson at Cardwell. There are numerous smaller streams.

Industries—For many years mining was the principal industry of the county, and its silver mines at Corbin, Wickes, Elkhorn and other camps have produced millions of dollars. In the past year or two there has been a marked revival in mining. Agriculture has made good strides, and dairying in the southern part of the county, the product being marketed in Butte. Much live stock is raised in the northern and central portions.

Mineral Resources—While the mineral wealth produced in the past has been enormous, the possibilities are by no means exhausted and favorable looking prospects are being discovered right along. Many of these are now being developed. The chief values are silver, lead, gold and some zinc. Granite used in the State Capitol at Helena came from this county.

Timber—There is considerable merchantable timber. There are 354,720 acres of the Deer Lodge National Forest and 147,835 acres of the Helena National Forest included within the county.

Land Values—Irrigated land prices range from $50 to $150 an acre, non-irrigated land from $10 to $35 an acre, and grazing land from $7 to $12.

Education—Besides the rural schools, there is a high school at Whitehall and a county high school at Boulder, both accredited for four year terms. The county high school has a course in agriculture under the provisions of the federal Smith-Hughes Act. The State School for the Deaf and Blind is located at Boulder.

Transportation and Highways—The main lines of the Northern Pacific and Chicago, Milwaukee & St. Paul run through the southern end of the county and branches of the Northern Pacific leave the main line at Sappington and Whitehall and run south into Madison county. The Havre-Butte branch of the Great Northern runs north and south through the county. The Banff-Grand Canyon road parallels the Great Northern through the county, and the Yellowstone Trail the Northern Pacific.

Tourist Attractions—There are three good health and pleasure resorts in the county—the Boulder Hot Springs at Boulder, the Pipestone Hot Springs near Whitehall and the Alhambra Hot Springs at Alhambra. The Lewis and Clark National Monument, said to rival Mammoth Cave in beauty, is near Morrison in the southeastern part of the county.

Cities and Towns—Boulder and Whitehall are the chief towns in the county. Whitehall is the center of the irrigated agricultural district and draws much trade from Madison county. Boulder, near the center of the county, is a good market town and the chief live stock point in the county, as well as important in a mining way.

Special Opportunities—Further development of the mineral and building stone deposits, agriculture and dairying.

Climatological—The mean temperature and precipitation at Boulder are given by the U. S. Weather Bureau, January and February excepted, as follows:

Temp..	.....	.....	28.5	39.0	48.5	57.6	62.4	62.4	52.5	40.0	30.7	22.6	.....
Prec....	.....	.....	.54	.97	1.91	2.20	1.16	.89	1.46	.71	.40	.57	.....

Digitized by Google

JUDITH BASIN COUNTY.

Date of Creation, December 10, 1920.

Land Area, 1,894 Square Miles (est.)
County Seat, Stanford (Temporary).
Altitude County Seat, 4,270.
Population, 1920, (not available.)
Population County Seat, 1920, 355.
Growing Season, 114 Days.

General Description—Judith Basin county lies in central Montana and includes within its area the great Judith Basin, recognized as the best non-irrigated farming district in the state. It is a county with many small towns, big grain elevators, numerous creeks, and few crop failures. The region within its borders has made more progress in non-irrigated farming than any other part of the state.

Surface and Soil—The Highwood Mountains in the northwestern part of the county and the Little Belt Range along all of the southern border make those areas rough and broken. The chief agricultural district is found in the eastern two-thirds of the county. The bottom lands along the streams are used for hay and root crops, the bench lands for grain growing, and the foothills for timothy and native grasses. The top soil is a brown or chocolate colored loam. The sub-soil is clay and both are intermixed with lime.

Crops—Wheat, oats, barley and hay are the principal crops.

Drainage and Water Supply—The Judith River, in the eastern half of the county, flowing northerly, is the largest stream in the county, but numerous mountain streams, all flowing to the north, traverse the county. Springs are found in many districts and water from wells can be obtained at depths ranging from 15 to 75 feet.

Industries—Agriculture and stock growing are the chief industries.

Mineral Resources—Coal is found in some parts of the county and has been mined on a commercial scale.

Timber—About one-fifth the area of the county is included within national forests.

Land Values—Grain lands range in price from $50 to $125 an acre. Stock ranches and diversified farms can be purchased at $25 to $50 an acre.

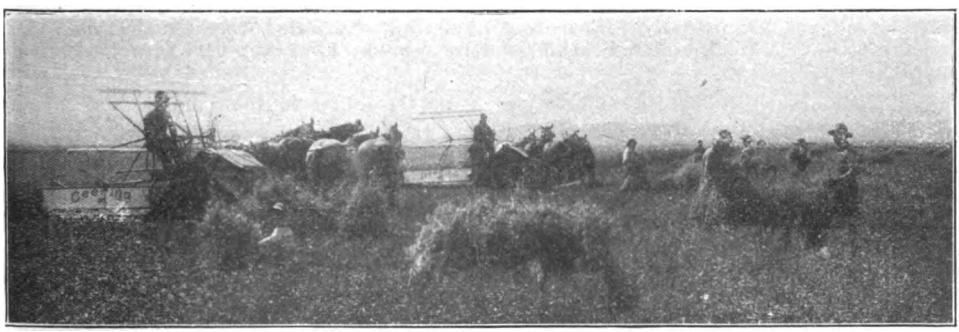
Transportation and Highways—The Great Northern line from Billings, used by the Burlington for its transcontinental trains, enters the county near the southeastern corner and runs north to Junction where a branch runs east to Lewistown, while the main line continues across the county in a northwesterly direction. Highways connect the county with Lewistown, Great Falls and points south.

Education—There are three high schools in the county. Those at Stanford and Hobson are accredited for the four year term and one at Moccasin for a two year term.

Cities and Towns—Stanford, the temporary county seat, and Hobson, are the most important communities in the county. Other towns are Mendon, Moccasin, Windham, Spion Kop, Benchland, Utica and Lehigh, the latter a coal camp. The skyline of nearly every town and village in the county is dotted with grain elevators.

Special Opportunities—Agriculture and stock raising.

Climatological—The mean temperature and precipitation records are not available for the county. See those for Lewistown (Fergus county.)



Binding Grain

Digitized by Google

LEWIS AND CLARK COUNTY.

Date of Creation, February 2, 1865.

Land Area, 3,476 Square Miles.
County Seat, Helena.
Altitude County Seat, 4,157.
Growing Season, 90-141 Days.
Population County Seat, 1920, 12,037.

General Description—Lewis and Clark county lies in the west central portion of Montana, the main range of the Rocky Mountains marking a portion of its western boundary. It has a maximum length north and south of 110 miles and a maximum width east and west of 66 miles. It is one of the oldest counties in the state. Mining originally was its main industry, then stock growing was developed and in later years farming has become important. Upwards of 75,000 acres of the 3,000,000 acres of tillable land in the county have been irrigated, chiefly in the Prickly Pear Valley at Helena, the State Capital, and in the Sun River Valley in the northern part of the county.

Surface and Soil—Aside from the Blackfoot Valley, which is devoted to stock growing, the western part of the county is mountainous. Large, fertile valleys, basins and rolling uplands are found in the eastern part of the county, centering chiefly about Augusta and Gilman in the north, and about Helena in the south end of the county. There are many narrow valleys which are devoted to farming. The soil varies from a deep black loam in the valleys to a chocolate loam with a clay subsoil on the benches. In spots the soil is light with a gravel subsoil.

Crops—The principal crops are alfalfa, oats, wheat, potatoes and garden stuff in certain districts. A start has been made growing sunflowers for silage.

Drainage and Water Supply—The Missouri River is the principal stream in the county on the eastern side of the mountains, and the Blackfoot and its tributaries on the western. Many smaller streams, discharging into the Missouri, rise in the high mountains and insure ample water for irrigation. Water in wells is found usually at depths ranging from 20 to 60 feet.

Industries—Stock raising, mining and agriculture are the principal industries in the county. Lumbering is conducted on a small scale. The Holter, Hauser Lake and Canyon Ferry hydro-electric plants on the Missouri river generate 65,500 kilowatts, or about one-fourth the electrical energy generated in Montana. The only custom silver-lead smelter in Montana is located at East Helena, while at Helena are manufacturies for the production of biscuits and crackers, candy, coffee and tea, mining machinery and structural steel, farm machinery, ornamental lighting standards, brick, tile and terra cotta, dairy products, soap, glycerine, store and office fixtures, granite and marble works, tents and awnings and large book and job printing establishments. Helena is an important jobbing center, chiefly in hardware, groceries and men's clothing, and is reputed to be the largest automobile distributing center in the state. It is also a financial center, a branch of the Federal Reserve Bank being established there, and the Helena postoffice is the depositary and supply point for all Montana postoffices.

Mineral Resources—There are many mining districts of commercial importance in the county that in the past have produced millions of dollars but which are considered still to be in their infancy. Because of high costs, little is being done in the gold mining districts, but renewed activity is noticeable in the silver districts. Lead, zinc or copper are usually found in conjunction with the precious metals. Many sapphires have been found on the Missouri river but have not been developed commercially.

Timber—Much timber of commercial value is found in the county, but logging operations have never been conducted on a large scale. There are 49,000 acres of the Flathead National Forest in the county, 243,418 acres of the Helena National Forest, 422,152 acres of the Lewis and Clark National Forest, and 162,905 acres of the Missoula National Forest.

Land Values—Irrigated lands vary in price from $75 to $200 an acre, non-irrigated farming lands from $15 to $50 an acre, and grazing land from $7 to $12 an acre.

Transportation and Highways—The main line of the Northern Pacific traverses the southern portion of the county, the Havre-Butte branch of the Great Northern runs north and south through the county, the Great Northern has a branch out of Great Falls that taps the northern end or Sun River portion of the county. The Milwaukee has projected a line through the county from Great Falls to Missoula. A

Digitized by Google

Irrigated Wheat Crop Near Helena. Threshed 70 Bushels to the Acre

number of automobile stage lines are operated. In the summer season a 400-mile auto stage operates between Yellowstone and Glacier Parks with a night stop-over at Helena. The chief motor highways passing through the county are the Geysers-to-Glaciers, the Electric Highway, and the Banff-Grand Canyon road.

Education—Besides good graded schools in all parts of the county, there are high schools at Helena and Augusta, both accredited for the four year term. At Helena there is also the Montana Wesleyan College, a Methodist institution; the Mount St. Charles College, a Catholic institution; the Deaconess School for children, a Catholic high school and St. Vincent's Academy, a girls' boarding school.

Tourist Attractions—Helena has made unusual efforts to attract tourists. The Broadwater Hotel and Hot Springs have been reopened as a tourist resort exclusively. Here is found the largest covered hot water plunge in the world. Nearby is Fort Harrison, recently converted into a United States Public Health Service Hospital. On the Missouri river are the immense dams and plants of the power companies. Here also is found the Gate of the Mountains, discovered and named by Lewis and Clark, where the river has cut its way for many miles hundreds of feet deep through the rock. Besides attractive scenery in the mountains and gulches about Helena, mining operations are to be seen, prospectors at work, and placer beds that in years past have yielded millions of dollars in gold.

Cities and Towns—Helena, the principal community, is a city of homes as well as a financial, distributing and mining center. Besides the State Capitol, there is situated here the State Fair, held in the fall of each year; the State School for Girls, and many federal offices having jurisdiction throughout the state. Smelters are located at East Helena which is an industrial and farming community. Augusta and Gilman are the chief communities in the northern part of the county. Other communities are Marysville, Rimini, Wolf Creek, Craig, Canyon Ferry and Lincoln, the latter on the Big Blackfoot where many summer homes have been erected.

Special Opportunities—Development of the agricultural, mining and industrial resources.

Climatological—The mean annual temperature and precipitation at Helena, as given by the U. S. Weather Bureau, are as follows:

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Temp..	20.0	22.2	31.0	42.0	51.6	60.6	66.6	66.1	56.2	44.0	32.7	24.8	43.1
Prec....	.93	.74	.74	1.14	1.95	2.11	1.07	.69	1.06	.82	.72	.80	12.77

Digitized by Google

LIBERTY COUNTY.

Date of Creation, February 11, 1920.

Land Area, 1,458 Square Miles.
County Seat, Chester.
Altitude County Seat, 3,132.
Growing Season, 101 Days.

General Description—Liberty county is located in the north central portion of Montana, bounded on the north by the Canadian province of Alberta. It is 60 miles long north and south by 24 miles wide east and west.

Surface and Soil—Ninety per cent of the surface is first class cultivatable land. There is some irrigated land in the county but most of it is non-irrigated. The surface is level to gently rolling except the Sweet Grass Hills, which are rolling but better than 50 per cent tillable.

Crops—The principal crops are wheat, oats and flax. Sunflowers for silage purposes do well and all garden stuff thrives.

Drainage and Water Supply—The principal streams in the county are the Marias River, Willow Creek, Eagle Creek, Cottonwood Creek and Pondera Coulee.

Industries—Farming and stock raising are the chief occupations. There is some coal mining.

Mineral Resources—Considerable coal is found in the county, and copper, gold, silver, lead and marble have been found but have not been developed on a commercial scale. The indications are considered good for the discovery of oil and natural gas.

Timber—There is no commercial timber in the county. Cottonwood is found along the streams.

Land Values—The average value of improved irrigated land in this county is $25 to $75 an acre. Unirrigated, non-improved tillable land and grazing land sells at $10 to $25 an acre.

Transportation and Highways—The main line of the Great Northern railway crosses the county, east and west, and is paralleled by the Roosevelt Memorial Highway.

Education—There are 46 schools in the county, including a high school at Chester which has been accredited for two years' work.

Tourist Attractions—Beautiful camping places and good hunting and fishing are to be had in the Sweet Grass Hills in the northern part of the county.

Cities and Towns—Chester, the county seat, is the most important community in the county. Other good towns along the railway are Joplin and Lothair. The more important inland towns are Whitlash, Laird and Alma.

Special Opportunities—The agricultural development of the county is just in its infancy and 40,000 acres of first class tillable land can be purchased at prices ranging from $15 to $25 an acre. Water is available everywhere. It is reported there is an opening at Chester for a first class hotel.

Climatological—The weather station at Chester has not been maintained long enough for the mean temperature and precipitation to be determined. Havre (Hill county) records would be approximately the same.

At a Farmers' Picnic

Digitized by Google

LINCOLN COUNTY.

Date of Creation, July 1, 1909.

Land Area, 3,660 Square Miles.
County Seat, Libby.
Altitude County Seat, 2,053 Feet.
Population, 1920, 7,797.
Population County Seat, 1920, 1,522.
Growing Season, 46-97 Days.

General Description—Lincoln is the most northwesterly county in Montana, abutting on British Columbia on the north and Idaho on the west. It is a mountainous region, but good agricultural land is found in the valleys. Lumbering, mining, agriculture, horticulture and dairying are the chief industries.

Surface and Soil—The Tobacco Plains Valley in the northeastern part is the largest valley in the county and virtually the only one clear of timber. The valley of the Kootenai is the longest in the county, but is narrow. In some places a series of benches intervenes between the valley and the mountains, and these benches will be tillable when cleared. Along the numerous small creeks there are smaller valleys. High, densely wooded, and picturesque mountains cover the larger portion of the county. Deep black soil is found in the valleys, a light, red volcanic ash, frequently underlain with gravel, is found on many of the benches, and a gray loam is found in places in both the valleys and on the benches.

Crops—While many kinds of fruit are grown, including apples, plums, pears, cherries, and in the Troy section peaches, the chief soil wealth it is believed will always come from hay and the hardier vegetables. It is a natural grass country. Clover and timothy do exceptionally well.

Drainage and Water Supply—Lincoln is probably the best watered county in the state. The Kootenai River, which carries a larger volume of water than the Missouri, flows southerly more than half the length of the county and then swings westerly, covering 100 miles in all through the county. It is asserted there is a running brook in almost every gulch and more than 100 lakes, many of unusual beauty. Besides the Kootenai, the principal streams are the Tobacco River in the northeastern and the Yaak River in the western part.

Mineral Resources—Silver and lead have been the principal metals successfully mined so far, but gold, zinc and copper are also found. Placer mining has been carried on for many years. There are said to be several large areas suitable for mining by hydraulic methods. Ores and formations of Lincoln county mining districts are similar to the Coeur d'Alene district of Idaho. Several large concerns are at work developing properties.

Timber—More of the area of Lincoln county is said to be included within National Forests than that of any other county. The Kootenai Forest of 1,617,140 acres lies wholly within the county, and in addition there are 398,666 acres of the Blackfeet and 8,371 acres of the Cabinet National Forests in the county. Logging operations are conducted on a large scale, and among the largest sawmills in the state are those of Lincoln county.

Land Values—Land prices range from $10 to $100 an acre, depending upon the character of the ground, its location, amount of clearing done and improvements.

Transportation and Highways—The main line of the Great Northern runs through Lincoln county and a branch line runs from Rexford to the Fernie coal fields in British Columbia. The Electric Highway, beginning in southeastern Montana, has its present terminus in Lincoln county. The National Park-to-Park Highway runs through the county east and west.

Education—Good graded and high schools are provided, and in addition, special rural schools, mounted on wheels, have been constructed, to provide school facilities for children in the logging camps. As the camps are moved, the schools move with them. The county high school at Eureka has a course in agriculture and another in normal training. There is also a good high school at Libby. Both are accredited for the four year term.

Tourist Attractions—Besides unusual scenery, Lincoln county offers as good fishing as is to be found in the country, and unusually good big game hunting. It is a paradise for the tourist and the sportsman.

Cities and Towns—Libby, the county seat, is modern and has sewers, lights, cement walks, graded streets and many handsome business buildings and residences. Eureka, the next city in importance, is located in the Tobacco Plains section, the prin-

Digitized by Google

cipal agricultural area in the county at this time. Like the county seat it has modern city improvements. Troy and Warland are both industrious and prosperous communities.

Special Opportunities—Land values are cheap, and especially cut-over or stump lands that will produce splendid crops when cleared. The most feasible method of development is to go into dairying, the cattle grazing on clover and other grasses, and returning an income while the land is gradually cleared. Mining offers good opportunities and there are many potential tourist resorts awaiting development. There are big possibilities of power development, the falls of the Kootenai, between Libby and Troy, being considered one of the largest undeveloped power sites in the country.

Climatological—The mean temperature and precipitation at Libby, as shown by the U. S. Weather Bureau, are as fololws:

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Temp..	24.7	28.4	35.9	46.4	53.6	59.2	64.4	65.0	54.8	45.5	34.8	27.2	44.9
Prec....	2.78	1.75	1.70	1.09	1.69	1.82	1.22	0.96	1.69	1.76	3.96	2.26	22.68

MADISON COUNTY.

Date of Creation, February 2, 1865.

Land Area, 3,588 Square Miles.
County Seat, Virginia City.
Altitude County Seat, 5,822 Feet.
Growing Season, 101-130 Days.

General Description—Madison county lies in southwestern Montana. It was at Alder Gulch, in the early sixties, that the first big discovery of placer gold was made, which virtually placed Montana on the map and resulted in its development. It has large mountainous areas, and some exceedingly good valleys. Stock raising and mining are the principal industries, although agriculture is receiving more attention. Large ranches have been the rule in this county, but of recent years many of them have been sold and sub-divided. Considerable hydro-electric power has been developed.

Surface and Soil—The Tobacco Root Range, between the Jefferson and Madison River watersheds, runs north and south through the middle of the county. On its eastern side is the Madison Range, and near the western side are found the Snow Crest, the Ruby and the McCarty Ranges of mountains. The principal valleys are the Madison and Jefferson with their tributaries. Lying between the mountain ranges and the valleys are benches and low lying foothills. There has been some non-irrigated farming practiced on the benches and foothills but they have been chiefly used for grazing. A loam soil is the prevailing type.

Crops—Alfalfa, clover, timothy, wheat, oats, barley, rye and potatoes are the chief crops. The potatoes raised in this county have won numerous prizes at State and National Expositions. The Jefferson Valley has become quite a potato district.

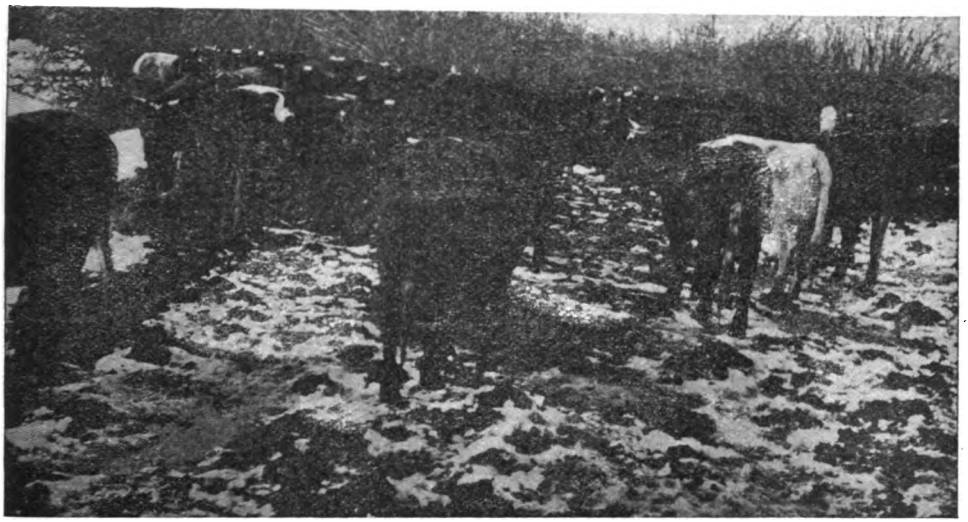
Drainage and Water Supply—Madison is one of the best watered counties in the state. The Jefferson, Madison, Beaverhead, Ruby, Big Hole and South Boulder Rivers are the chief streams and their flow is augmented by hundreds of tributaries which rise in the high mountains. All the agricultural lands in the valleys are irrigated, chiefly by private ditches that are appurtenant to the ranches and the rights to which have been adjudicated in most instances by the courts. The Montana Power Company has two hydro-electric plants in operation on the Madison River with a combined installed capacity of 12,000 kilowatts, and it also has two storage reservoirs on this stream, covering 17,430 acres, with a combined storage capacity of 14,915,000,000 cubic feet.

Industries—Stock raising, mining and agriculture.

Mineral Resources—Gold, silver, copper and lead are the chief metals found. Big dredges are working over again the placer ground that was mined in the sixties and recovering additional wealth. The chief mining districts are near Twin Bridges, Rochester, Sheridan, Virginia City, Pony, Norris and Red Bluff.

Timber—Large areas of good timber are found in the county. Included in the Deer Lodge National Forest are 18,560 acres of Madison county land, in the Gallatin Forest 105,548 acres and in the Madison 751,940 acres.

Digitized by Google



Steers in the Feed Lot

Land Values—Land values range from $40 to $125 an acre for irrigated and from $5 to $40 an acre for grazing and non-irrigated land.

Transportation and Highways—The county is tapped by two branch lines of the Northern Pacific. One extends from Whitehall to Alder through the Jefferson and Ruby Valleys and the other from Sappington to Norris and Pony through the Madison Valley. The Vigilante Trail, a highway of great historical interest, is a state road, and connects with all transcontinental highways.

Education—Besides rural schools in the country districts, graded schools are found in the chief communities and the county boasts of five high schools, one each at Virginia City, Sheridan and Pony, each accredited for the four year term; one at Twin Bridges accredited for three years, and one at Ennis, accredited for the one year term. The State Orphans' Home is located at Twin Bridges.

Tourist Attractions—Some of the finest scenery, fishing and hunting in the United States is found in Madison county. Sportsmen from all parts of the United States come to fish on the Madison. W. E. Corey, the steel magnate, has a hunting lodge there. Montana was born in Madison county, and it was there the Vigilantes purged the territory of the road agents and desperadoes. Many log buildings of historical interest are still standing, and curios and relics of the by-gone age are preserved in the Thompson Memorial Library in Virginia City.

Cities and Towns—The principal towns are Virginia City, the county seat, situated on Alder Gulch in the center of one of the richest mining districts. It was the territorial capital at a very early date and is a town of great historical interest. Twin Bridges, situated at the junction of the Beaverhead and Jefferson Valleys, is a hustling commercial center and stock shipping point. Sheridan, located in the Ruby Valley, is surrounded by rich farm lands and is one of the chief stock shipping and mining centers. Ennis, in the Upper Madison Valley, is in the midst of the stock growing section and is a distributing center. Pony and Harrison are in the Lower Madison Valley and are trading points for a large area.

Special Opportunities—Development of the tourist business. Stock growing and farming. Mining.

Climatological—The mean temperature, by months, at Virginia City, is given by the records of the United States Weather Bureau, but records showing the mean precipitation are not available. The temperature:

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Temp..	20.3	23.1	29.5	40.0	47.6	56.0	64.0	63.7	53.3	43.2	30.0	22.7	41.1

Digitized by Google

McCONE COUNTY.

Date of Creation, April 1, 1919.

Land Area, 2,740 Square Miles.
County Seat, Circle.
Altitude County Seat, 2,800 (estimated).
Population, 1920, 4,174.
Population County Seat, 1920, 452.
Growing Season, 111-125 Days.

General Description—McCone county lies in northeastern Montana, the Missouri River marking its northern boundary. There is not a mile of railroad within its borders, but its lands have been so desirable that it has a larger population than several counties of as great a land area that are situated on the railroad. Stock raising for years has been the chief industry of the district, but non-irrigated farming has made good strides in recent years. There is very little irrigated land. The average annual precipitation is greater in this than in most of the eastern Montana counties. The Great Northern has surveyed a main line through the county which is almost certain to be built when financial conditions permit.

Surface and Soil—The county is rolling in most places with many attractive valleys and flat bench lands. The soil is chocolate loam, covered with a heavy growth of native grasses.

Crops—Wheat, oats, barley, rye, alfalfa, garden truck and corn are the chief crops. Corn does exceedingly well and the acreage devoted to it is steadily being expanded.

Drainage and Water Supply—The Redwater River, flowing near the eastern boundary, is the principal stream in the county, but many smaller streams empty into the Missouri on the north and Dry Creek on the west.

Industries—Stock growing and farming are the chief industries.

Mineral Resources—Lignite coal is found in many places, and there are believed to be possibilities of the discovery of oil and gas.

Timber—There are no merchantable stands of timber in the county. Cottonwood and ash are found along the streams.

Land Values—Because of the long hauls at present necessary to reach the railroad, land values are cheaper than in most parts of the state. Less than half of the tillable area of the county is under cultivation, another factor that makes for low values.

Transportation and Highways—The Great Northern has surveyed a main line through the county and has built the line save for a gap of about 150 miles. The line is certain to be completed. A north and south and an east and west highway have been projected through the county. Local roads are good.

Education—There are about 50 school districts in the county and 70 schools, including a high school at Brockway accredited for a two year term, and one at Circle accredited for a one year term.

Cities and Towns—Circle is the largest town in the new county, and within a radius of 50 miles. Circle is on the proposed line of the Great Northern and has a good prospect of becoming both the passenger and freight division point. The town already boasts of a large flour mill, two banks, six stores, two livery barns, two garages, two pool halls, and a fine large theater. It has a fine $7,000.00 hotel, two restaurants, rooming houses, blacksmith shops and two newspapers, besides many other lines of business. It also has three churches and a high school.

Brockway is another thriving business center, and the next largest town in the county with a population of about 200. It has a large number of business places, including a bank, general stores, flour mill, newspaper, garages, amusement hall, etc. It also boasts the only creamery in the county, and it has proven a big success. Other towns in the county are: Terrace, Vida, Sand Creek, Nickwall, Riverside, Hamblin, Prairie Elk, Weldon, Redwater, Watkins, Paris, Pattonhill, Bonin, Nina and Horse Creek.

Special Opportunities—Stock raising and agriculture. With the coming of the railroad there will be good openings in the towns.

Climatological—The mean annual temperature and precipitation at Spring Brook are given by the United States Weather Bureau as follows:

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Temp..	12.1	14.0	25.0	41.8	54.0	62.9	68.4	68.4	59.5	44.1	28.8	19.2	41.5
Prec....	1.01	1.08	1.61	1.14	2.70	4.42	1.81	1.94	1.38	1.09	.66	.94	19.78

Digitized by Google

MEAGHER COUNTY.

Date of Creation, November 16, 1867.

Land Area, 2,369 Square Miles.
County Seat, White Sulphur Springs.
Altitude County Seat, 5,000 Feet.
Population, 1920, 2,622.
Population County Seat, 1920, 574.
Growing Season, 65-94 Days.

General Description—Meagher county lies in central Montana. The crest of the Little Belt Range of mountains marks its northern boundary, and the crest of the Big Belt Range its southern boundary. The Smith River runs northwesterly through the county, and its valley is the chief one in the county. There is some open rolling land in the eastern part. Stock growing is the principal industry. In recent years there has been some non-irrigated farming.

Surface and Soil—A little more than half of the county is mountainous. The Smith River Valley, 50 miles long and from 12 to 15 miles wide, is the chief farming district. It is practically all irrigated. In the eastern end of the county there is some non-irrigated farming. The soil in the valley is alluvial, and on the benches it is a chocolate loam. The land in the valley is largely owned by big stockmen who raise forage for winter feed. The altitude of the county is around 5,000 feet.

Crops—Grain and hay are the chief crops. While hay is the chief crop raised, heavy yields of grain of high quality are a characteristic of the county and it has won many prizes in state competitions. Vegetables are also grown.

Drainage and Water Supply—Many streams, rising in the mountain ranges on the northern and southern sides of the county, empty into the Smith River, which rises in the Castle Mountains. Sixteen Mile Creek, rising in the same range, flows west through a magnificent canyon, emptying into the Missouri at Lombard. Meagher is an exceedingly well watered county.

Industries—Cattle and sheep growing, farming and mining are the chief industries. There is some lumbering.

Mineral Resources—Considerable mineral, chiefly silver, lead, copper and gold, has been found in the county. Much work was done a number of years ago and then interest declined. There is now renewed activity. There are some coal deposits in the northern end of the county, but they have not been developed.

Timber—Good stands of commercial timber are found in the county. A total of 624,910 acres are in National Forests, divided as follows: 77,722 acres in the Absarokee Forest, 1,065 in the Gallatin Forest, 133,489 acres in the Helena, and 413,634 acres in the Jefferson Forest.

Land Values—Irrigated land sells from $40 to $100 an acre, and non-irrigated and grazing lands from $7 to $35 an acre.

Transportation and Highways—The main line of the Milwaukee railroad crosses the southern part of the county from east to west, and a branch line runs from Ringling on the main line to White Sulphur Springs, 18 miles north. The Y-G-Bee Line Trail between the Yellowstone and Glacier Parks runs through the county. Considerable work has been done in the county on state highways and it has good roads.

Education—Besides rural schools, there are graded schools and a high school in White Sulphur Springs, the latter accredited for the four year course.

Tourist Attractions—Besides attractive scenery and fine fishing, Meagher county has thermal springs that physicians assert are of high curative value. The springs are found in the county seat, White Sulphur Springs, and are owned by John Ringling, the circus magnate.

Cities and Towns—White Sulphur Springs is the only town of any size in the county. It is one of the older towns of Montana, well built, modern and is rated as one of the richest per capita in the state. It is the chief distributing point in the county.

Special Opportunities—Pure bred stock, dairying, mining, lumbering.

Climatological—The mean annual temperature at a point within the county is not available. The annual precipitation, as given by the records of the U. S. Weather Bureau, follows:

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Prec....	.89	.68	1.09	.87	2.96	3.30	1.77	1.21	1.46	1.22	.94	.59	16.90

Digitized by Google

MINERAL COUNTY.

Date of Creation, August 7, 1914.

Land Area, 1,224 Square Miles.
County Seat, Superior.
Altitude County Seat, 2,720 Feet.
Growing Season, 63-110 Days.

General Description—Mineral county is in the extreme western end of the state, next to the Idaho line. The crest of the Coeur d'Alene Mountains marks its northern boundary and the crest of the Bitter Root Range its western boundary. Nearly all of the county is included within the Lolo National Forest. Lumbering is the chief industry. There is some mining. A start has been made in agriculture and dairying, but there are thousands of acres of cut-over lands awaiting development.

Surface and Soil—The county, principally composed of picturesque ranges of mountains, is practically cut in two by the Missoula River and the Clark's Fork of the Columbia. Combined, the valleys of these rivers make one of the longest and most fertile spots in the state, though in places the valleys are narrow. Back of them there are, in places, productive bench lands.

Crops—Grain, clover, timothy, vegetables and small fruits and berries are the chief crops.

Drainage and Water Supply—The Missoula and Clark's Fork Rivers are fed by numerous mountain tributaries and water is abundant.

Industries—Lumbering and mining are the chief industries. One of the largest sawmills in the state is at St. Regis, and another large one is at Henderson. It is estimated the timber still standing is sufficient to run the mills at capacity for many years. The mining districts are near Superior and in the western end near Saltese. It is reported there are a number of good hydro-electric power sites on the Clark's Fork, which will develop 20,000 horse power.

Mineral Resources—Silver, lead, gold and copper are the chief minerals found.

Timber—Mineral county is one of the most heavily timbered counties in the state. Besides large private holdings, 723,755 acres of the county are included within the Lolo National Forest.

Land Values—Cleared and well improved farms are held at prices ranging from $50 to $100 an acre. Cut-over lands sell from $10 to $25 an acre.

Transportation and Highways—The main line of the Chicago, Milwaukee & St. Paul traverses the county, east and west, and is paralleled by the Northern Pacific. From St. Regis west, the Northern Pacific line is a branch that runs to Wallace, Idaho. The National Parks Highway and the Yellowstone Trail traverse the county.

Education—Besides the rural and graded schools, there is a high school at Superior, accredited for the four year course, and one at St. Regis accredited for the two year course.

Tourist Attractions—Magnificent mountain scenery and unusually good fishing and big game hunting.

Cities and Towns—The principal town is Superior, the county seat, with an estimated population of about 400. It is located on the Clark's Fork between mountain ranges and has two weekly newspapers, a bank with more than $100,000 deposits, a number of retail stores, a theater and churches. The schools are excellent. Other towns are DeBorgia, St. Regis and Saltese, all located on the railroad.

Special Opportunities—In the development of the county it seems probable that dairying will soon play an important part. The excellent pasturages which the cut-over lands of the county furnish, together with the purest water and a never failing market for dairy products, tend to make dairying very remunerative along the Clark's Fork and Missoula Rivers. This industry promises to enjoy much growth in the future. More cows are being brought into the country and creameries are planned at the smaller towns, which should open up the industry in good shape. There is also an abundance of hay for winter feeding.

Climatological—No weather records, showing the mean temperature and precipitation in the county, are available. See records of Missoula (Missoula county.)

Digitized by Google

MISSOULA COUNTY.

Date of Creation, February 2, 1865.

Land Area, 3,022 Square Miles.
County Seat, Missoula.
Altitude County Seat, 3,223.
Population County Seat, 1920, 12,668.
Growing Season, 115 Days.

General Description—Missoula county is located midway between the north and south boundaries in western Montana. It is fifty-five miles north and south by fifty miles east and west. All of the county is in a mountainous region with the Flathead Valley in the northwest section, comprising about 210,000 acres of agricultural land, mostly irrigated and open rolling country. The Missoula and Grass Valleys are situated in the central part of the county, all irrigated and agricultural, comprising 70,000 acres. The Bitter Root Valley, in the south central part, and the Blackfoot Valley, in the east central district, are narrow and fertile valleys, that part of the Bitter Root Valley in Missoula county containing about 20,000 acres. There are 25,000 acres in the Blackfoot in Missoula county.

Crops—Hay and grain are among some of the principal crops. Much fruit is also raised. Alfalfa is a principal crop in some parts of the Flathead Valley. Timothy and clover are raised all over the county. In the order of their importance these are the chief crops: Wheat, apples, potatoes, alfalfa.

Drainage and Water Supply—The sources of water supply for all irrigation streams are from the many mountain streams fed by snow and glaciers. The principal streams are the Missoula or Hellgate River, entering the county at the extreme southeastern corner, following a northwesterly course the entire width of the county. The Missoula River is fed by the Blackfoot River east and by the Bitter Root River, which runs north and south, four miles west of Missoula. The Jocko River, which runs westerly through the central part of the county, supplies the United States reclamation projects for the lower part of the Flathead. The Clearwater River runs from the extreme north end of the county in a southerly direction for about forty miles, where it empties into the Blackfoot. Both the Blackfoot and Clearwater are noted as fishing streams. The Rattlesnake Creek is the source of water supply for Missoula City. It is one of the finest streams in the northwest for domestic purposes. Government tests and analyses have shown the water of this stream to be chemically pure. In rural districts the domestic water supply is from wells and from natural springs developed into gravity systems for use by the people.

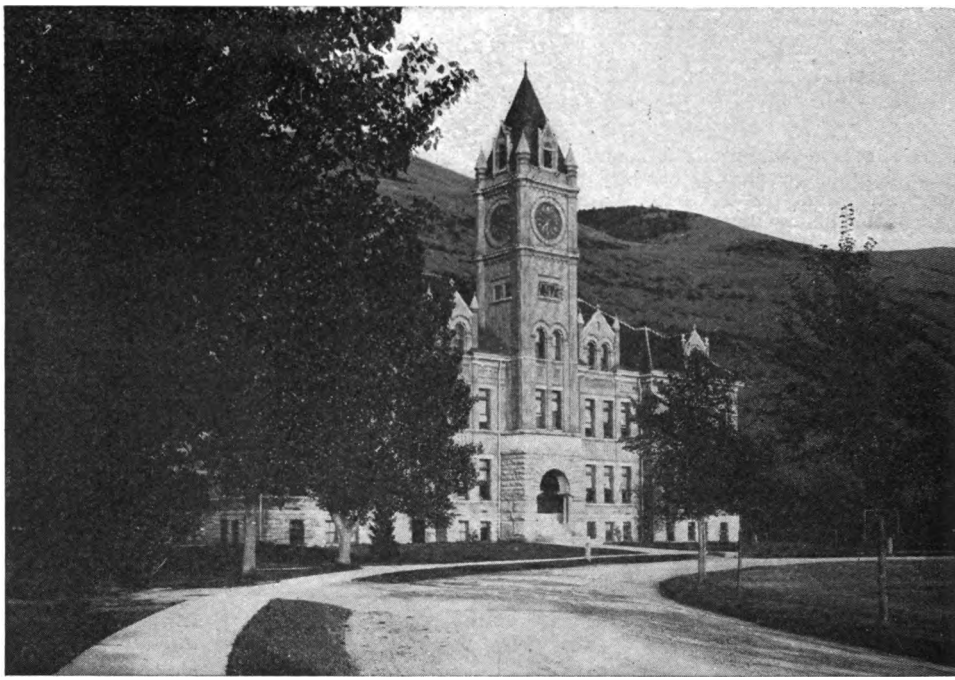
Industries—One of the main industries is lumbering, the total annual cut for the county being approximately 150,000,000 feet b. m. The Anaconda Copper Mining Company has one of the largest and up-to-date mills in the northwest at Bonner, seven miles east of Missoula. The annual capacity is 100,000,000 feet. The Western Lumber Company also has a big new lumber mill at Milltown with a capacity of 25,000,000 feet. Polleys Lumber Company has a mill at Missoula with a capacity of 20,000,000 feet. There are several other plants which have a combined capacity of approximately 5,000,000 feet. Logging camps are located in all parts of the county. Blooded stock raising is a growing industry. Diversified farming is carried on in all the valleys. In Missoula City is a manufacturing plant whose output is culverts and flumes. There are also several woodworking plants.

Timber—The timber lands of the county are very extensive. The eastern half of the county is almost solid timber land, as is also the southwest portion. Pine, fir and tamarack are the chief species.

Land Values—The average value of improved irrigated land ranges from $65 to $125 per acre and improved non-irrigated $45 to $65. Small improved tracts adjacent to towns sell at from $350 to $700 per acre. Non-improved cultivable lands, grazing lands, sell for approximately $25 per acre. There are three National Forests in the county, Lolo, Lewis and Clark and Missoula.

Transportation and Highways—Missoula has two transcontinental railroad lines—the Chicago, Milwaukee & St. Paul, electrified, and the Northern Pacific. The Northern Pacific has a division terminal at this point. Local daily trains are made up in Missoula and run to the Bitter Root Valley, to Hellgate Valley, Grass Valley, and to the Coeur d'Alene and to the Flathead. There are also, in summer, many auto stages to each of these valleys. One electric line runs from Missoula to Bonner, seven miles distant. The principal state highways are the Yellowstone Trail and the National Parks Highway.

Digitized by Google



State University, Missoula

Education—Missoula county enjoys the benefits of a modern, up-to-date school system. There are sixty-three public schools, three parochial and one Americanization night school. In the city of Missoula are ten grammar schools and one county high school. Fifty-two schools are located in the county outside the city. Many of the rural schools have been consolidated and many motor busses are used to transport the children to the school buildings. In Missoula City is located the University of Montana. Here is also located a first class business college.

Tourist Attractions—Hunting and fishing are to be enjoyed along all main traveled highways. Ideal natural camping grounds along good streams are available in all sections. The Mission Range of mountains in Flathead Valley, with its glaciers and lakes, is unsurpassed for scenery. The Bitter Root, Blackfoot and Flathead Valleys also possess wonderful scenery. Visitors in this vicinity should be sure to visit Lolo Hot Springs, Salmon and Seely Lakes. Auto tourists who pass through the county will find ideal camping grounds provided for them by the Missoula Chamber of Commerce in the city of Missoula.

Cities and Towns—Missoula, the principal city, is located in such a way as to be the center for Flathead, Blackfoot, Hellgate, Bitter Root and Grass Valleys. It is the metropolis of western Montana. Is a well built, progressive city with all modern improvements, good public and private buildings, banks with large deposits, electric lights, street railway, three daily newspapers, numerous large business houses, a number of manufacturing establishments and an opening for others. The Western Montana Fair is an annual event in Missoula. Secretary of the State Board of Horticulture, who is the chief inspector of fruits and fruit trees, maintains an office here. Missoula is the headquarters for the United States Forest Service for District No. 1; also the United States Land Office for the district, and the United States Bureau of Public Roads.

Digitized by Google

Other towns are Bonner, a lumbering center, seven miles east of Missoula; Frenchtown, St. Ignatius, Ronan, Pablo, Charlo and Arlee. Ronan, in the Flathead, is devoted largely to lumbering and farming. St. Ignatius is the home of the original mission for the Indians, established by the Jesuit Fathers in the Flathead Valley. Farming is the leading industry.

Special Opportunities—Missoula county presents ideal opportunities in the dairying line. Irrigation is progressing rapidly and is greatly enlarging the area of productive land, providing a wonderful field for agriculture. Transportation, climatological and power resources open opportunities in a manufacturing way as well as for mining development and agricultural industry.

Climatological—The mean temperature and precipitation at Missoula are given by the U. S. Weather Bureau as follows:

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Temp..	21.3	24.5	34.8	44.9	53.7	60.0	63.2	63.2	55.6	44.8	32.5	24.3	43.5
Prec....	1.48	0.84	1.02	1.04	2.10	2.23	1.12	0.85	1.28	1.23	1.18	1.36	15.73

MUSSELSHELL COUNTY.

Date of Creation, March 1, 1911.

Land Area, 1,913 Square Miles.
County Seat, Roundup
Altitude County Seat, 3,184.
Growing Season, 141-144 Days.

General Description—Musselshell county, which derives its name from the river which traverses it from east to west, is located just south of the geographical center of Montana, and is approximately 65 miles from east to west, and 42 miles from north to south. Most farming is what is called dry land farming, the land being unirrigated, although about 15,000 acres are under ditch, and as much can be irrigated.

Surface and Soil—The soil varies in different parts of the county. Along the river the soil is a heavy loam which produces high yields of all grains, corn, alfalfa and garden truck. On the benches a limestone gravel soil predominates which is easily cultivated, and is particularly suited for wheat raising. In the extreme northern and southern parts of the county and along the Bull Mountains, the land is rolling, and in some places mountainous, suited for grazing, and where open produces good crops. All classes of soil are of good depth. The central portion of the county is mostly level, with frequent benches, which are particularly suited for conserving moisture, and usually produce splendid wheat crops.

Crops—The principal crops grown are wheat, oats, rye, barley, corn, flax, alfalfa, timothy, clover, potatoes, beans, and vegetables of all kinds. Much corn and sunflowers are being planted for silage. Sweet clover is also proving a splendid forage crop.

Drainage and Water Supply—The principal source of water supply is the Musselshell River, which irrigates about 12,000 acres along its banks. Willow Creek, Flatwillow and Swimming Woman Creeks also serve to irrigate several thousands of acres of farm lands lying in the north end of the county. Water for domestic use is obtained from the Musselshell River for several towns along that stream. Wells for domestic purposes furnish an ample supply on farms, water being found at a depth of 20 to 60 feet in most sections of the county.

Industries—The principal industries, aside from farming, are stock raising and coal mining. A splendid grade of semi-bituminous coal is obtained in the Bull Mountain coal field. The largest mine at Roundup produces 3,000 tons daily, and the total production of the five largest mines reaches 6,000 tons daily, which is capable of increase to double that amount. Oil development is now attracting much attention, three wells sunk in 1919 and 1920 having produced oil of an excellent quality, and many more are being drilled in various parts of the county.

Mineral Resources—So far coal and petroleum are the only minerals found in appreciable quantities, although there is known to be a deposit of sapphires in the county, several hundred specimens having been gathered.

Timber—In the Bull Mountains and the Snowy Mountains timber is found of good merchantable quality.

Land Values—Lands are reasonably priced. For raw agricultural lands, $15 to $30 per acre is asked, and for improved land $20 to $75 per acre. For irrigated land from $40 to $75 per acre. Grazing land, which is more or less rough and unsuited for cultivation, sells at $5 to $10. The price to a large extent is governed by distance from towns and railroads, and improvements on the place.

Digitized by Google

Transportation and Highways—The county is traversed from east to west by the main line of the Chicago, Milwaukee & St. Paul, and from north to south by the Great Northern railway, running from Billings to Great Falls. Several state and national highways intersect the county. The Custer Battlefield Highway, extending from Omaha to Glacier Park, crosses the county from south to north, passing through Roundup. The Montana Electric Trail follows the line of the Milwaukee railroad from west to east across the county, passing through Lavina, Roundup, Musselshell and Melstone. The Glacier Cutoff, starting at Custer on the Yellowstone Trail, passes through Musselshell and Roundup and northward to Glacier Park.

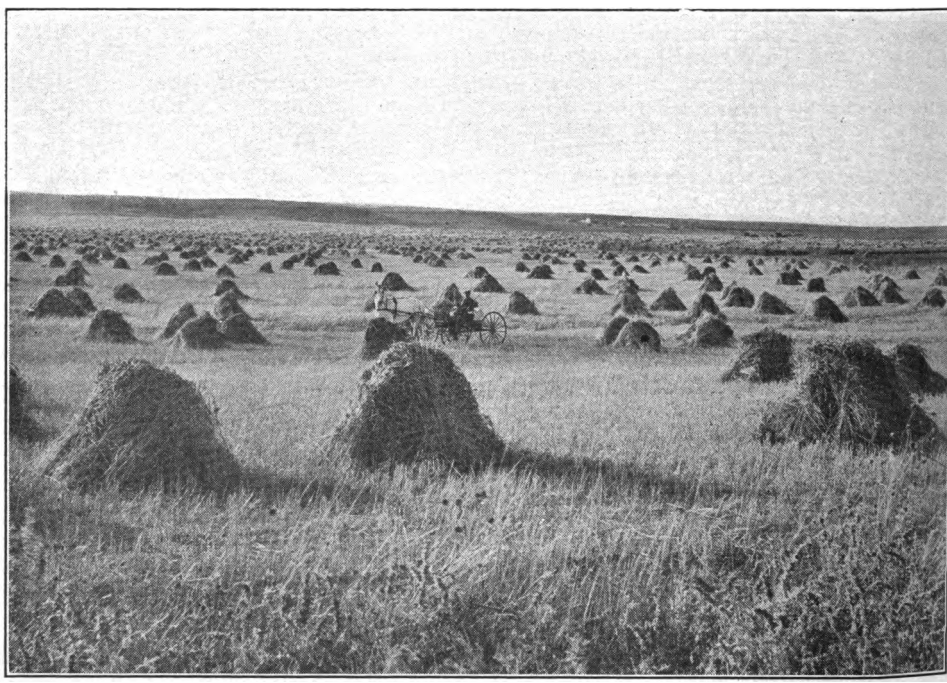
Education—There are 145 schoolhouses in the county served by 180 instructors. Of these 125 are rural schools, 12 graded schools and eight high schools.

Tourist Attractions—The largest shaft coal mine west of the Mississippi is at Roundup. The oil fields can be seen in operation from the Custer Battlefield Highway, an hour's trip from Roundup. Several fine fishing streams within easy reach. In the Bull Mountains beautiful scenery and on the benches wonderful stretches of agricultural land. Duck, prairie chicken, sage hens, wild geese, and deer hunting in season.

Cities and Towns—Roundup, the county seat, has a population of ..... Paved streets, cluster lighting system, modern, electric light, water and sewer systems. New reservoir of a million gallons capacity just finished. Pay roll of $150,000 per month from coal mines within four miles of the city. Center of large farming and stock raising district. Center of distribution for 12 oil fields within 40 miles. Musselshell, population 300, farming and stock raising chief industry. Coal mines developing. Melstone, population 400, railroad division point, nearest rail gateway to Mosby oil fields, stock raising, coal mining, and grain farming.

Special Opportunities—Musselshell county offers opportunity to thrifty farmers with capital enough to establish themselves. Lands are cheap. Investors can find opportunity for investment in the towns. Store buildings and homes are needed. Oil offers a field for speculators and operators.

Climatological—Stations have not been maintained long enough in Musselshell county for the mean temperature and precipitation to be determined. It is said the average rainfall will run 14 to 15 inches.



Ready for the Thresher

Digitized by Google

PARK COUNTY.

Land Area, 2,679 Square Miles.
County Seat, Livingston.
Altitude County Seat, 4,491.
Population County, 1920, 11,345.
Population County Seat, 1920, 6,326.
Growing Season, 78-123 Days.

General Description—Park county is located in the south central portion of Montana, is 100 miles north and south by 50 miles east and west. Its southern boundary is the northern boundary of the Yellowstone National Park, the northern entrance to which access is had through this county. Two large fertile agricultural valleys occupy the center of the county. One, the Shields Valley, varies from 15 to 30 miles in width, and the other, the Yellowstone, from two to 20 miles. Upwards of 100,000 acres are under irrigation and most of it has been highly developed.

Surface and Soil—The soil in the valleys is a rich black loam with a clay subsoil. The Crazy Mountains appear in the northeastern part of the county and most of the southern part is also mountainous.

Crops—Hard winter and spring wheat, oats, barley, rye, seed peas, alfalfa, timothy and clover are the chief crops. Vegetables and sugar beets thrive. Much hay, chiefly timothy and alfalfa, is grown. The county is noted as a prize winner in national as well as state competitions on practically all of its crops.

Drainage and Water Supply—The Yellowstone and Shields Rivers are the chief streams. Both have many tributaries flowing the year round. Water is found in wells at less than 40 feet in most places.

Industries—Agriculture, dairying and stock raising, including raising of registered stock, mining in the southern part of the county. Livingston is a railroad division point with large local shops and general railway offices, flour mills, cigar factory, creamery, three granite cutting yards and brick yards, lime kiln at Pray, stone quarry at Emigrant, creamery at Wilsall and cheese factory ten miles northwest of Wilsall.

Mineral Resources—Gold, silver, lead, zinc, chrome, black manganese, red and brown hematitem iron, tungsten, scheelite, molybdenum and nickel are found in the southern half of the county. There are deposits of coking and bituminous coal, gypsum, limes and high grade polish granite.

Timber—Much commercial timber is found in the county. Nearly a million acres are included within national forests. There are 677,639 acres of Park county land in the Absarokee Forest, 75,512 acres in the Beartooth Forest and 188,960 acres in the Gallatin Forest.

Land Values—Improved irrigated land sells at $75 to $150 an acre. Improved non-irrigated bench lands sell at $25 to $50 an acre and grazing land at $10 to $15.

Transportation and Highways—The transcontinental line of the Northern Pacific goes through the heart of the county, and a branch line from Livingston taps the Shields River Valley and another from Livingston goes to Gardiner, the official entrance to the Yellowstone Park. Many important highways cross the county, including the Yellowstone Trail and National Parks Highway from east to west, and the Yellowstone-Glacier-Bee Line Highway and the Geysers to Glaciers Highway north and south. The county has improved roads.

Education—Besides a modern high school and four large grade schools in Livingston, there is a high school at Wilsall, another at Clyde Park and 65 common schools in the rural districts. There is also a Catholic parochial school at Livingston.

Tourist Attractions—Park county is the gateway to the Yellowstone Park and offers splendid big game hunting in season. Fishing is also excellent. Hunters' Hot Springs is one of the best known resorts in the state. Chico and Corwin Hot Springs are also well known resorts.

Cities and Towns—Livingston, the county seat, is a modern up-to-date community and one of the most important cities in the state. It is the trading center for a rich agricultural and stock growing territory. Other smaller but good towns are Wilsall and Clyde Park.

Special Opportunities—Pea and vegetable canning factories, pure bred live stock breeding. Livingston invites certain kinds of manufacturing.

Climatological—The mean precipitation at Livingston, as determined by the United States Weather Bureau, is as follows:

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Prec....	.58	.54	.82	1.12	3.40	1.89	1.11	0.95	1.54	0.99	0.95	0.45	14.34

Data showing mean temperature is not available. See Bozeman (Gallatin county.)

Digitized by Google

PHILLIPS COUNTY.

Date of Creation, February 5, 1915.

Land Area, 5,266 Square Miles.
County Seat, Malta.
Altitude County Seat, 2,248.
Growing Season, 119 Days.

General Description—Phillips county lies in the north central part of Montana, extending from the Canadian boundary on the north to the Missouri River on the south. The broad and fertile Milk River Valley cuts through the center of the county, east and west. The county is 101 miles long north and south and 66 miles wide east and west. There are nearly 100,000 acres of irrigated land, chiefly in the Milk River Valley, under the government reclamation project.

Surface and Soil—The county is nearly all prairie in character excepting the Little Rocky Mountains in the southwestern part of the county. It is practically all cultivable. The soil is mostly clay loam. Some gumbo is found.

Crops—The chief crops are wheat, oats, flax, alfalfa, corn and beans.

Drainage and Water Supply—The Milk River is the principal stream. Many tributaries rising in the Little Rocky Mountains flow into it from the south, and a number of streams that rise near the international boundary line flow into it from the north. Water for domestic purposes is found in wells ranging from 12 to 300 feet, depending upon the locality.

Industries—Agriculture and stock raising are the chief industries. Considerable gold mining is done in the Little Rockies.

Mineral Resources—Gold in the Little Rockies, lignite coal in many places, and several structures thought to be favorable for the finding of oil.

Timber—In the southwestern part of the county in the Jefferson National Forest some timber of commercial value is found, and cottonwood along the Missouri and Milk Rivers.

Land Values—Improved irrigated lands sell for around $75 an acre, improved non-irrigated for $25, non-improved lands $15 and grazing lands $10 an acre.

Transportation and Highways—The main line of the Great Northern passes through the county, following the Milk River most of the way. The Theodore Roosevelt Memorial Highway parallels the Great Northern railway. The Canadian Trail, which extends across Montana in a southwesterly direction, passes through the county and the mining districts in the Little Rockies.

Education—There are 112 graded schools in Phillips county and three accredited high schools. A total of 146 teachers are employed.

Tourist Attractions—Lake Bowdoin, a few miles east of Malta, is one of the best duck hunting places in the west. Large numbers of native wild fowl nest there, and it is one of the stopping places for the northern ducks when the flight is on in the fall. Beautiful scenery is found in the Little Rocky Mountains in the southwest portion of the county, and it is a spot where the romance of the old west is still to be found. In the fastnesses of the Little Rockies Kid Curry and his gang of outlaws lived. Headquarters of some of the big old time western stock outfits are near the Little Rockies.

Cities and Towns—Malta, the county seat, is a modern up-to-date community and the chief trading center. Other good towns tributary to large farming districts are Bowdoin, Dodson and Saco.

Special Opportunities—Agriculture along the Milk River is capable of much development. The region is new, settlers are just laying the foundations, and diversified farming and dairying are just beginning.

Climatological—The mean precipitation at Malta, as determined by the United States Weather Bureau, is as follows:

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Prec....	.62	.51	.43	.58	2.28	3.78	1.96	1.15	1.43	.58	.32	.49	14.13

The Malta station records are not available as to temperature. See Glasgow records (Valley county) and Chinook (Blaine county.)

Digitized by Google

PONDERA COUNTY.

Date of Creation, April 1, 1919.

Land Area, 2,369 Square Miles.
County Seat, Conrad.
Altitude County Seat, 3,501.
Growing Season, 77-130 Days.

General Description—Pondera county is situated in the northwestern part of Montana, the Continental Divide of the Rocky Mountains marking its western boundary, and the Blackfeet Indian reservation and the Marias River its northern boundary part of the way. It is 84 miles long east and west and from 18 to 30 miles wide north and south. About 125,000 acres are under irrigation, the majority of this acreage being included in a Carey project of the Valier Land & Irrigation Co.

Surface and Soil—The eastern two-thirds of the county is tillable, but the western portion of the county is mountainous and is valuable chiefly for stock raising and grazing. The soil is a black loam of considerable depth in most places.

Crops—Wheat, flax, oats, barley, potatoes and alfalfa are the chief crops. As settlers on the irrigated lands become better established, more diversification is noted, more forage is raised and dairying and stock raising included in the operations.

Drainage and Water Supply—The principal streams in the western part of the county, running north, are Birch Creek, Blacktail Creek and Dupuyer Creek, emptying into the Marias River. The Pondera River is in the eastern part of the county. Well water is found at depths ranging from 20 to 200 feet.

Industries—Agriculture and stock raising are the chief industries.

Mineral Resources—Coal is found in the western part of the county, and wells are being drilled for oil on several formations considered favorable looking.

Timber—Some commercial timber is found in the western part of the county. There are 121,616 acres of Pondera county land included in the Lewis and Clark National Forest.

Land Values—Irrigated land sells at $90 to $125 an acre. Non-irrigated farming lands range from $15 to $50 an acre, and non-improved non-irrigated lands at $10 an acre up.

Transportation and Highways—Through Burlington trains from Chicago to the coast use the Great Northern tracks through the eastern part of the county as main line. The Montana Western, connecting with the Great Northern at Conrad, runs

Typical Northern Montana Wheat Field

Digitized by Google

northwesterly to Valier, serving the irrigated district. The Geysers-to-Glaciers High way, the Y-G-Bee Line Highway and the Banff-Grand Canyon Road traverse the county north and south. Local roads are well maintained.

Education—There are high schools at Conrad and Valier, both accredited for four year terms. Good graded schools are found in all the community centers.

Tourist Attractions—Good hunting and fishing in the western part of the county, while the Blackfeet Indian reservation on the north affords opportunity to see the western Indian in his native environment.

Cities and Towns—Conrad, the county seat, is the most important town in the county. It has all modern improvements and is the distributing center for a rich and growing community. Among other courses given in its high school are manual training, domestic science, commercial and normal training. Valier, the second largest town, is in the heart of the irrigated district. It is likewise a modern community and a growing one. Other important community centers are Dupuyer, the oldest town in the county; Brady, Williams, Manson, Ledger and Fowler. Williams is the headquarters of the Community Club of the irrigation project, the first organization of its kind in the county. The first Project Fair was held under the auspices of the Community Club, and the first Pondera County Fair in connection with the second annual Project Fair. It is planned to make the fair a permanent county event.

Special Opportunities—Development of the agricultural and stock raising industries.

Climatological—Records of the United States Weather Bureau have not been kept for a ten year period in the county, so the mean temperatures and precipitation are not available.

POWDER RIVER COUNTY.

Date of Creation, April 1, 1919.

Land Area, 3,181 Square Miles.
County Seat, Broadus.
Altitude County Seat, 3,050 (estimated.)
Growing Season, 126 Days.

General Description—Powder River county lies in southeastern Montana, its southern boundary marking the northern boundary of Wyoming. It is remote from the railroad, and stock raising is the chief industry, though practically all the best homestead lands have been entered upon. Surveys have been made for a railroad from Belle Fourche, South Dakota, to Miles City and whenever the line is built there will be a quick development of the agricultural industry in the county, and the communities, all small now, will offer many opportunities to various lines of business.

Surface and Soil—The northern and eastern portions of the county consist of rolling prairies with pine and cedar brakes. The western and southern portions of the county are rough and broken in places with hills of considerable size. This will always be used for grazing purposes. The soil in those districts adapted to agriculture is chiefly a deep, fertile loam.

Crops—Alfalfa and corn are the leading crops. Some small grain is raised. Small fruits, vegetables and melons do well. There are a few old orchards in the county and those that have been cared for have been successful.

Drainage and Water Supply—The Powder River flows northeasterly through the county. Into it flows the Little Powder River which drains the southern portion of the county. Otter Creek, Pumpkin Creek and Mizpah River are other streams which flow more or less during the year. A number of artesian wells, developing a good flow, have been brought in.

Industries—Cattle raising is the chief industry. There are many old time big cattle outfits operating in this region. Practically all the irrigated land in the county belongs to these ranches, having been developed to furnish winter forage.

Mineral Resources—There is considerable lignite coal in the county, but no prospecting has been done to ascertain what other mineral resources, if any, the county has.

Timber—There are some commercial stands of timber. Cottonwood, wild plum, box elder and ash grow along the streams. Pine and cedar are found in the hills. There are 395,000 acres of the county included in the Custer National Forest.

Digitized by Google

Land Values—Because of the remoteness of the county from market, land values are low.

Transportation and Highways—A stage line operates between Broadus and Miles City, a distance of 90 miles, and between Broadus and Biddle, in the southern end of the county. Besides the highway to Miles City, other roads give connection at Arvada, Sheridan and Gillette, Wyoming, and Belle Fourche, South Dakota.

Education—Being a newly created county, remote from the railroad, only rural schools exist in the county at present.

Cities and Towns—Broadus, the county seat, though less than two years old, has progressed quite rapidly. Among its establishments are several stores, two banks, a lumber yard, a $25,000 hotel, a 30 barrel flour mill and a newspaper. Artesian well water is used in the county. Stacey and Powderville, besides Broadus, are the most important trading posts in the county.

Climatological—No records of the United States Weather Bureau are available showing temperature and precipitation in this county.

Sweet Clover Is a Good Crop In Montana

Digitized by Google

POWELL COUNTY.

Date of Creation, January 31, 1901.

Land Area, 2,549 Square Miles.
County Seat, Deer Lodge.
Altitude County Seat, 4,519 Feet.
Growing Season, 41-83 Days.

General Description—Powell county lies on the western slope of the main range of the Rocky Mountains, in western Montana, about midway between the northern and southern boundaries of the state. More progress in agricultural development has been made in the southern half of the county, the northern half being largely mountainous and devoted to lumbering and live stock raising. There is considerable mining in the county. Deer Lodge, the county seat, is one of the pioneer towns of the state. It has developed considerably in the past few years since the Milwaukee made it a division point.

Surface and Soil—Mountains occupy most of the surface of the county, but there is a considerable area of good farming land in the Deer Lodge Valley, around Deer Lodge, and also in the Big Blackfoot Valley around Ovando. Lesser agricultural areas are found along all the streams. The soil in the Deer Lodge Valley varies from a rich black loam to a light chocolate, underlaid by a gravelly sub-soil that comes to the surface in places.

Crops—Alfalfa and wild hay are the big crops in Powell county, but considerable wheat, oats, barley and flax are raised, as well as dairy products, poultry, swine and vegetables, there being a good local market for these four last named products in Anaconda and Butte. The valleys in the northern half of the county are principally devoted to hay to furnish winter forage for the live stock.

Drainage and Water Supply—Powell is a well watered county. The Deer Lodge River flows northerly and then westerly through the southern half of the county, the Big Blackfoot River westerly, and the Little Blackfoot River and Nevada Creek in a southerly direction through the northern half of the county. In the remote northern end of the county the South Fork of the Flathead River rises in the high mountains and flows northerly. All of these streams are fed by numerous mountain tributaries.

Industries—Farming, stock raising, mining and lumbering are the chief industries. The Chicago, Milwaukee & St. Paul maintains shops at Deer Lodge which furnish employment to many men.

Mineral Resources—Silver, lead and gold are the chief minerals that have been developed. The United States Geological Survey reports large areas around Elliston and Avon may be valuable for their deposits of phosphate rock. The principal mining districts are near Elliston on the Little Blackfoot and on Nevada Creek around Ophir. A number of mines in the Elliston district are operating. There has also been some mining near Deer Lodge. There has not been sufficient prospecting done in the northern part of the county to determine its mineral possibilities.

Timber—There are 626,209 acres of the surface of the county included within national forests, divided as follows: 169,765 acres in the Missoula Forest, 70,930 acres in the Deer Lodge Forest, 271,000 acres in the Flathead Forest and 114,514 acres in the Helena Forest.

Land Values—Agricultural land prices vary from $20 to $150 an acre, depending upon location, altitude, markets and crop adaptability.

Transportation and Highways—The main lines of the Northern Pacific and Chicago, Milwaukee & St. Paul traverse the southern part of the county, and the Milwaukee has made surveys for another line through the northern part of the county between Great Falls and Missoula. All the principal east and west automobile highways pass through the county which is noted for its unusually good roads. At Garrison the main automobile highways fork, one going via Butte and the other via Helena.

Education—Besides the rural schools, there are graded schools in Deer Lodge and the county high school is located there. In addition to ordinary high school courses, it gives a course in agriculture under the provisions of the Smith-Hughes act.

Tourist Attractions—Good hunting and fishing are to be had in this county. A number of guides at Ovando take parties northward into the high mountains which are still a primitive wilderness.

Digitized by Google

Cities and Towns—Deer Lodge, the county seat, is a city of beautiful homes, modern business blocks and all modern municipal improvements. Besides the public schools St. Mary's (Catholic) Academy is there. It is the chief distributing point for the Deer Lodge Valley and an important railroad town. The Montana state prison is located at Deer Lodge. Other towns are Elliston, Avon, Ovando and Helmville, the last named the principal trading point in the northern part of the county.

Climatological—The mean precipitation at Deer Lodge is not available from government records. The mean temperature at Deer Lodge is given as follows:

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Temp..	21.3	23.8	29.6	40.4	48.5	57.0	62.3	59.3	51.2	40.7	30.2	21.9	40.5

PRAIRIE COUNTY.

Date of Creation, February 5, 1915.

Land Area, 1,685 Square Miles.
County Seat, Terry.
Altitude County Seat, 2,250.
Population, 1920, 3,684.
Population County Seat, 1920, 794.
Growing Season, 104-128 Days.

General Description—Prairie county lies in eastern Montana, midway between the northern and southern boundaries. It has a maximum length, east and west, of 72 miles and a maximum breadth of 21 miles. Stock raising and non-irrigated farming are the chief industries. Considerable reclamation is projected.

Surface and Soil—In the northwestern part of Prairie county the Mountain Sheep Bluffs rise and the surface is more or less broken. The remainder of the county is rolling. The prevailing type of soil is a chocolate loam.

Crops—Wheat, oats, flax, rye, barley and corn are the chief grain crops. Some alfalfa and considerable wild hay is raised. More attention is being given to corn and sunflowers for silage purposes.

Drainage and Water Supply—The Yellowstone River, flowing northeasterly, bisects the county, and is fed by a number of tributaries. The most important on the south in Prairie county is the Powder River. Smaller creeks come in from the north. Irrigation of 30,000 acres from the Yellowstone and Powder Rivers is projected.

Industries—Stock raising and agriculture are the chief industries. Farmers on the non-irrigated lands are devoting more attention to live stock.

Mineral Resources—Lignite coal of good quality is abundant in the county. Some prospecting is being done in districts thought to be favorable for oil and gas.

Timber—There are no commercial stands of timber. Cottonwood is found along the creeks.

Land Values—Non-irrigated land can be purchased from $10 to $75 an acre and grazing land from $7 to $15 an acre.

Transportation and Highways—The transcontinental line of the Northern Pacific follows the Yellowstone River through the county. The main line of the Milwaukee enters the county from the southeast and from Cato west follows the Yellowstone. The Yellowstone and Red Trails cross the county from east to west, merging into one trail at Fallon, and at Terry are joined by the Powder River Trail, extending from Moose Jaw, Canada, to Denver, Colorado. The roads out of Terry, Fallon and Mildred are graded.

Education—Besides 40 rural schools in the country districts, there are good graded schools in Terry, Fallon and Mildred. Terry also has a high school accredited for a four year course, and at Mildred there is a high school accredited for a two years' course.

Cities and Towns—Terry, the county seat and principal town, is situated in a natural artesian basin along the Yellowstone River between the mouth of Powder River and Fallon Creek. It is served by the Northern Pacific and Milwaukee railroads, and is the chief distributing center of the county. It is a modern, up-to-date town with a Community Club, a community church, and it is the headquarters of the Farm Bureau, the County Fair Association and the Roundup. Mildred and Fallon are growing towns that have a growing territory behind them. Mildred lies on the Chicago, Milwaukee & St. Paul and the Yellowstone Trail. Fallon is on the line of the Northern Pacific at the junction of the Yellowstone and Red Trails.

Digitized by Google

Special Opportunities—While the bench lands tributary to the principal communities have been well improved, large areas of railroad and other lands are available at reasonable prices

Climatological—Data of the United States Weather Bureau showing mean annual temperature and precipitation are not available. See records of Miles City (Custer county.)

RAVALLI COUNTY.

Date of Creation, April 1, 1893.

Land Area, 2,391 Square Miles.
County Seat, Hamilton.
Altitude County Seat, 3,571.
Growing Season, 125-130 Days.

General Description—Ravalli county, comprising the major portion of the Bitter Root Valley, lies in western Montana, bounded on the west by the Idaho line, which follows along the jagged range of the Bitter Roots, and on the east by the Granite county line, which follows along a spur of the Rockies, and on the south by the Continental Divide. Hemmed in by mountain ranges on all sides save the north, the Bitter Root Valley extends northerly and southerly for approximately 70 miles with a maximum width of about 18 miles. Most of the farming is done under irrigation. The county is well developed in dairying, horticulture and fruit raising. Lumbering, formerly the dominant industry, now occupies a secondary position.

Surface and Soil—The Bitter Root Valley is rolling, with considerable slope near the foothills, which in places are succeeded by bench lands. Some of these bench lands have been placed under the ditch. The soil in the valley varies from a gravelly light soil to a deep loam. The Bureau of Soils, United States Department of Agriculture, has made a soil survey and soil maps of this valley.

Crops—Hay, both wild and tame; oats, wheat, barley, potatoes and other vegetables, apples and cherries are the chief crops. Fruit growing was boomed in the valley at one time and many areas planted that were not suitable. Now, however, the industry has been stabilized and is doing well. Many former orchard tracts have been planted to hay and grain for dairy herds and swine.

Drainage and Water Supply—The Bitter Root River, a large clear mountain stream, is fed by numerous tributaries coming down from the mountains on both sides of the valley.

Industries—Fruit growing, dairying, flour milling and lumbering are the chief industries. At Stevensville is found the only co-operative creamery in the state and one of the most successful co-operative enterprises in the United States. Besides marketing all kinds of dairy products, it also markets poultry products. There are flour mills at both Hamilton and Stevensville.

Mineral Resources—The county has no developed mineral resources.

Timber—While thousands of acres of land in this county have been cut over, large commercial stands of timber still remain. There are 1,129,567 acres of the county included within the Bitter Root National Forest and 7,900 acres within the Lolo National Forest.

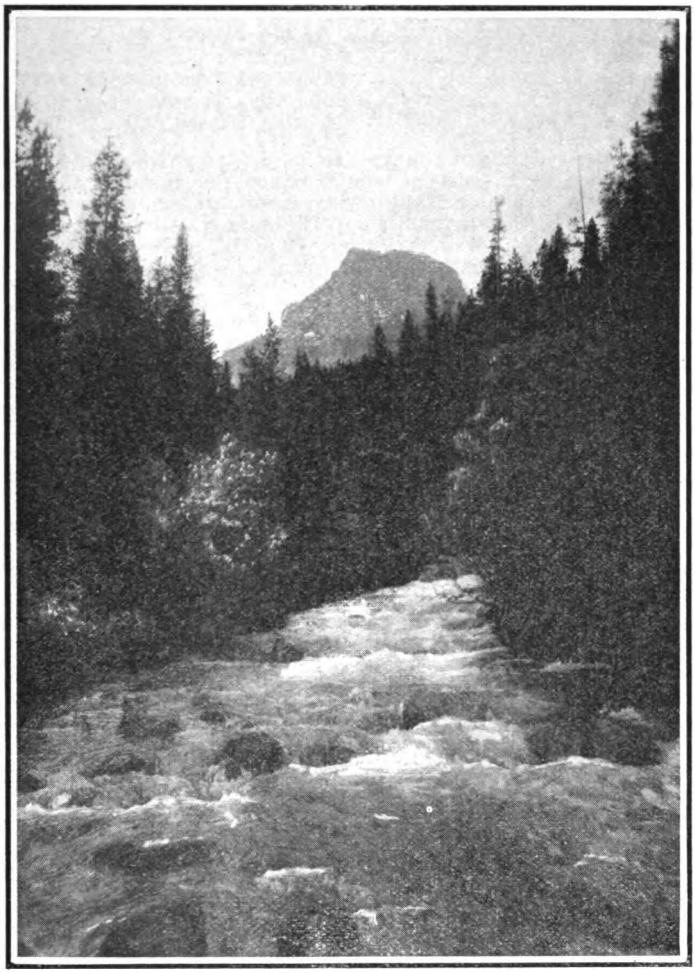
Land Values—Irrigated land brings from $100 to $200 an acre; non-irrigated land around $30 an acre, and grazing land from $7 to $15 an acre.

Transportation and Highways—A branch line of the Northern Pacific from Missoula runs practically the entire length of the valley. The Park-to-Park road link traverses the valley, which is considered one of the most beautiful in the state.

Education—School facilities are unusually good. Besides the rural and graded schools there are high schools at Hamilton, Stevensville, Corvallis and Victor, each accredited for the four year course. The Hamilton high school maintains a teacher training department.

Tourist Attractions—The Bitter Root Valley is one of the most historic spots in Montana. In 1805 Lewis and Clark, crossing over from the Big Hole, passed down the valley on their route westward; to this valley came the Jesuit Fathers in 1841 and established the first church in Montana, St. Mary's Mission, which still stands in what is now the town of Stevensville. They also plowed, seeded and harvested the first acre of land in Montana. The Flathead Indians chose this valley for their home and remained until they were moved to the Flathead reservation in 1891. The Nez

Digitized by Google



Mountain Stream That Feeds the Irrigation Ditches

Perces in their outbreak of 1877 swept through the valley. It was in this valley that Marcus Daly established his racing stud and some of the most famous winners on the American turf were bred here. Splendid hunting and fishing are found in this county, and some beautiful scenery.

Cities and Towns—Hamilton, the county seat, is the largest city in the county. It has all modern conveniences, good buildings and handsome homes. Stevensville, farther down the valley, is the second largest town, and the center of the dairying industry. Other towns are Corvallis, Victor and Darby.

Special Opportunities—Development of the tourist trade, dairying, horticulture and blooded live stock.

Climatological—The mean temperature and precipitation at Hamilton are given by the United States Weather Bureau as follows:

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Temp..	27.9	28.1	37.8	47.0	53.4	59.6	66.5	65.0	56.5	46.6	37.2	27.0	41.2
Prec....	0.91	0.66	0.62	1.04	1.68	1.73	0.69	0.70	1.10	0.89	0.75	0.48	11.25

Digitized by Google

RICHLAND COUNTY.

Date of Creation, May 27, 1914.

Land Area, 1,900 Square Miles.
County Seat, Sidney.
Altitude County Seat, 1,978.
Population County, 1920, 8,989.
Population County Seat, 1920, 1,400.
Growing Season, 116-125 Days.

General Description—Richland county lies in the far northeastern quarter of Montana, with North Dakota as its eastern boundary and the Missouri River as its northern. In shape, it is an irregular right triangle with its eastern and northern bases about 60 miles in length. The land in the Yellowstone Valley through the county is irrigated from the Lower Yellowstone Project constructed by the United States Reclamation Service in 1908. Along the tributaries of the Yellowstone more land is irrigated from private ditches.

Surface and Soil—The valley land is practically level and the soil is rich and except in spots there are no stones, gumbo or sagebrush. The Yellowstone Valley is from two to six miles in width and smaller valleys are found along tributary streams. A range of hills runs northeasterly through the county, marking the divide between the Missouri River and Yellowstone River watersheds. The bench lands are rolling but quite level in places, becoming rougher along the creeks and rivers. The bench land is chocolate loam in character underlaid with a clay sub-soil. It is practically free from stones. Seventy-five per cent of the county's surface is suitable for cultivation.

Crops—On the bench lands wheat, flax, corn and oats are grown. The irrigated districts devote most attention to alfalfa, sugar beets, potatoes, some grain and all kinds of vegetables.

Drainage and Water Supply—The chief streams are the Yellowstone toward the east, the Missouri on the north and Redwater Creek on the west. They have numerous trjbutaries, many of considerable size. The average depth of wells is 40 feet.

Industries—General farming and stock raising are the chief industries, but dairying is making good progress in the irrigated districts. There is a creamery at Sidney and also a flour mill. Stock raising is carried on principally in the northern part of the county.

Mineral Resources—There is an abundance of lignite coal in the county, practically every part of it being underlain with this cheap fuel which is to be had for the digging. Lignite is also sold commercially for local use.

Timber—There are no commercial stands of timber in the county. Considerable cottonwood is found along the streams and some pine and cedar in the rough portions.

Land Values—The average value of improved irrigated land is $150 an acre, improved non-irrigated farming land $40 an acre, non-improved bench lands $25, and grazing land $10 an acre.

Transportation and Highways—The Great Northern and Northern Pacific railways both tap Richland county. The Grat Northern has a branch running south from Mondak to Sidney, while another Great Northern line enters the county from Dakota at East Fairview, connecting with the Mondak line. This is part of a proposed new transcontinental cut-off which has been built west in Richland county as far as Richey. The war stopped construction but it is understood work will be resumed as soon as conditions permit. The Soo has projected a line westward through Sidney and the Northern Pacific has projected a line from Sidney to Killdeer, North Dakota. There are no main transcontinental highways passing through Richland county, but there are several state highways. The county roads are kept in good shape.

Education—Richland county has a good school system. There are 74 school districts in the county and Sidney, the county seat, has a good high school. A department is maintained in it for the training of rural teachers.

Tourist Attractions—Much of the early day history of the west was written on the Missouri and Yellowstone Rivers. Long before gold was discovered in Montana fur traders had built posts along these streams and there are a number of places in Richland county of historic importance.

Cities and Towns—Sidney, the county seat, is the most important community and the only railroad center. It is the general milling and market center. It has modern water works, sewerage system, electric lights and is an up-to-date community. The other principal towns are Fairview, Lambert, Savage and Enid.

Digitized by Google

Special Opportunities—Good openings exist for canning factories and alfalfa mills. Sidney, it is reported, needs more jobbing concerns.

Climatological—The mean precipitation at Sidney, as determined by the United States Weather Bureau, is as follows:

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Prec....	0.56	0.54	0.60	0.94	2.57	3.57	1.77	1.85	1.42	0.70	0.40	0.44	15.36

Figures not available on mean temperature.

ROSEBUD COUNTY.

Date of Creation, February 11, 1901.

Land Area, 5,070 Square Miles.
County Seat, Forsyth.
Altitude County Seat, 2,515.
Population County, 1920, 8,002.
Population County Seat, 1920, 1,838.
Growing Season, 122 Days.

General Description—Rosebud county is situated in the southeastern part of Montana, with 60 miles of the fertile Yellowstone Valley extending through its central part from east to west. It is irregular in shape with a maximum length from east to west of 114 miles and a maximum breadth of 84 miles north and south. There are about 30,000 acres of irrigated land in the county and 60,000 acres that are irrigable, nearly 2,000,000 acres of tillable land and 1,200,000 acres of grazing land.

Surface and Soil—While the soil varies, the prevailing type is chocolate loam with a clay sub-soil. In some of the northern parts of the county a heavy clay predominates but with proper cultivation gives good yields. The country is broken along the south half of the western border of the county by the Rosebud Mountains.

Crops—Wheat, rye, oats, barley, corn, alfalfa, alfalfa seed and sugar beets are the chief crops.

Drainage and Water Supply—The county is well watered by good sized streams. There are three important irrigation projects in the county. On the south side of the Yellowstone River and just west of Forsyth is the Yellowstone Irrigation Project of 5,000 acres. East of Forsyth on the north side of the Yellowstone is the Carterville Project of 10,000 acres, and on the same side of the river west of Forsyth is the Hammond Project of 5,000 acres. Many smaller projects are found on other streams. Water is obtained in wells at depths ranging from 20 to 200 feet. Springs are numerous.

Industries—Agriculture and stock raising are the principal industries.

Mineral Resources—It is reported the Northern Pacific railway has completed a survey into the southern end of the county to tap a field that is estimated to contain two billion tons of bituminous coal. Lignite is also plentiful. One of the largest potential oil domes in the state is in the northern part of Rosebud county. Development work is being done on it.

Timber—Some timber of commercial value is found in the county, there being 104,000 acres of the county included within the Custer National Forest.

Land Values—Improved irrigated lands will average $125 an acre in value, improved non-irrigable lands $30, unimproved tillable lands $15 and grazing lands $7 an acre.

Transportation and Highways—Two transcontinental railways traverse the county east and west, the Northern Pacific and the Chicago, Milwaukee & St. Paul. A 50-mile stretch of the Yellowstone Highway is in Rosebud county.

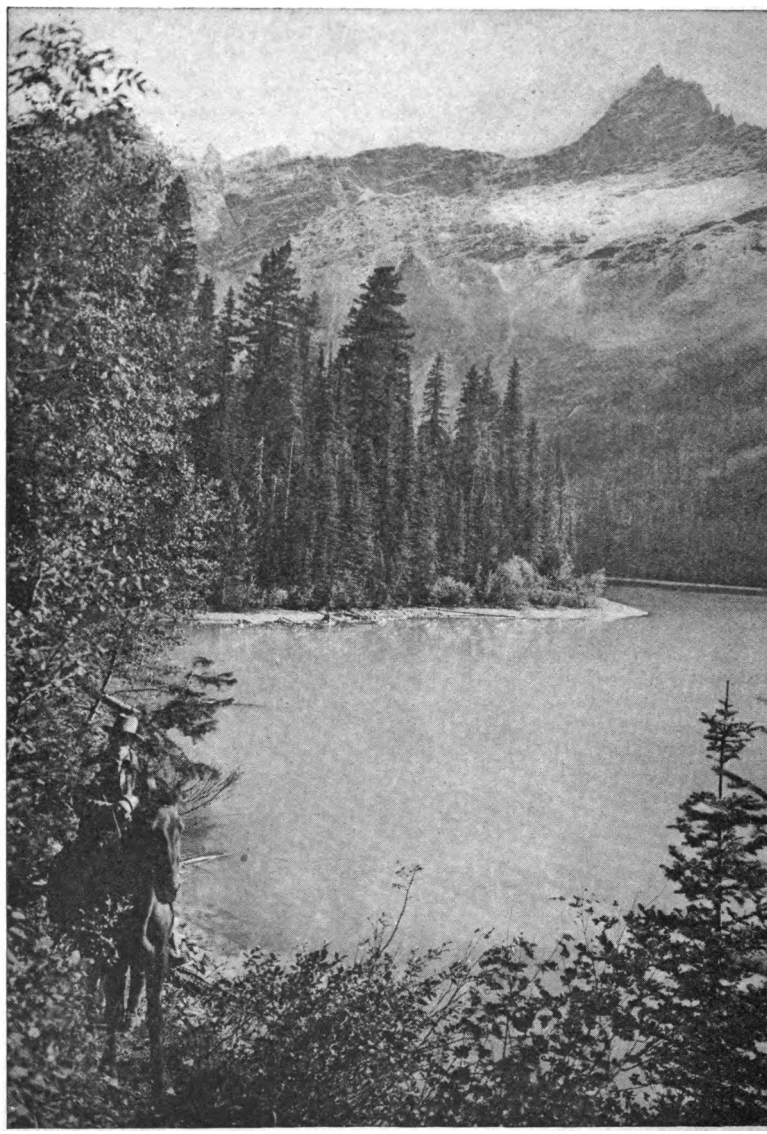
Education—There are 100 schoolhouses in the county with an enrollment of 1,938 pupils, and five high schools, two of them accredited for a four year term, with 122 pupils enrolled.

Tourist Attractions—In the southern part of the county, remote from the railroad, lies the Tongue River Northern Cheyenne Indian reservation. The Indians of this reservation, not having the opportunity of seeing the "white lights," are probably more unspoiled and like the Indians of 30 and 40 years ago than almost any other reservation Indians. Old time western cattle ranches are also found in the southern end of the county.

Digitized by Google

Cities and Towns—Forsyth, the county seat, is the chief city in the county. It is situated on both the Northern Pacific and Milwaukee railroads and is the distributing center for the county and the commercial center of an area 35 miles east and west, 35 miles north and 75 miles south. It is a modern city with three banks, two large mdoern hotels, two newspapers and 32 retail stores. Rosebud, the second largest town, is the commercial center for the eastern part of the county. Vanada, Sumatra and Ingomar are live towns in the northwestern part. Ingomar is the headquarters of the sheep industry of the county and has a shearing plant of a capacity of 6,000 head daily.

Climatological—The mean temperature and precipitation at Forsyth are not available from government records. See records of Billings (Yellowstone county) on west and of Miles City (Custer county) on east.



Avalanche Lake, Glacier Park

Digitized by Google

ROOSEVELT COUNTY.

Date of Creation, February 18, 1919.

Land Area, 2,355 Square Miles.
County Seat, Mondak (temporary.)
Altitude County Seat, 1,922 Feet.
Population County, 1920, 10,347.
Growing Season, 120-125 Days.

General Description—Roosevelt county lies in northeastern Montana. The North Dakota boundary marks its eastern, and the Missouri River its southern boundaries. It is exclusively an agricultural and stock raising county. While non-irrigated farming predominates over irrigated farming, when the Fort Peck Indian Reservation Reclamation Project in the western part of the county is completed by the government, 152,000 acres will be irrigated in one body. The county is 80 miles long and 30 miles wide. Its altitude is the lowest in the state.

Surface and Soil—All of Roosevelt county is practically a rolling prairie country, well adapted for large scale operations. This fact was recognized by the Montana Farming Corporation (a Morgan concern) which has leased several thousands of acres on the Fort Peck reservation and is raising wheat and flax on a big scale. The soil varies from a deep heavy chocolate loam to a light sandy loam.

Crops—Flax, wheat, oats, corn and hay are the chief crops. Before the coming of the settlers this region was noted among stockmen for its growth of heavy, luxurious and nutritious grasses.

Drainage and Water Supply—Aside from the Missouri River, marking the county's southern boundary, the principal stream is the Poplar River, flowing southerly through the county and emptying into the Missouri. There are a number of smaller streams in the county, all tributaries of the Missouri.

Industries—Agriculture and stock raising are the chief industries. Much progress has been made in establishing pure bred cattle herds. A Tri-County Stock Show for Sheridan, Roosevelt and Richland counties is held annually at Culbertson and is considered one of the best in the state. The Lowe & Powers Shorthorn herd at Culbertson is considered the best herd in northeastern Montana and western North Dakota.

Mineral Resources—Fine beds of lignite coal of good quality are found throughout the county. There is some prospecting for oil and gas, the indications for which are considered good.

Timber—There are no commercial stands of timber. Cottonwood and ash are found along the streams.

Land Values—Non-irrigated farms sell from $25 to $50 an acre, irrigated farms considerably higher, and grazing land considerably less. Some of the lands under the ditches of the Fort Peck Indian Project are being sold by Indians who have received patent in fee to their allotments, at prices ranging from $30 to $50 an acre, the purchaser assuming the construction costs.

Transportation and Highways—The main line of the Great Northern parallels the Missouri River through the county. A branch line runs north from Bainville into Sheridan county, and another branch from Snowden runs south into Richland county. The Roosevelt Memorial Highway follows the main line of the Great Northern.

Education—Besides rural and graded schools, there are four high schools in the county. Those of Wolf Point, Poplar and Culbertson are accredited for the four year term, and the school at Bainville for two years.

Cities and Towns—Wolf Point, the largest town in the county, has a population of 2,098 and is a railroad division point. It has a great future before it, not only on account of the railroad shops but also because of the large territory opening up around it. Four years ago it was an Indian agency town with a population of only 300 inhabitants. Now it has beautiful homes, fine churches, excellent school system and progressive business places. Poplar, also located on the main line of the Great Northern railroad, and the Missouri River, is a town that is growing rapidly and has a population of 1,152. It has gained considerable fame for the remarkable Indian Fair that is held every fall. Culbertson (population 347) is one of the oldest towns in the eastern part of the state. It takes the lead in encouraging the breeding of pure bred stock, and holds annually a Stock Show. Bainville (population 396) is situated in the eastern part of the county, is growing rapidly, due to its railroad facilities. A flour mill of a capacity of 550 barrels daily, the largest in northeastern Montana

Digitized by Google

or northwestern North Dakota, is in continuous operation, same being supplied by grain due to its railway facilities. The town is also becoming quite a point for car shipment distribution, and presents an opening for wholesale branch houses. Mondak is the temporary county seat and will remain so until the November elections in 1920. Froid, McCabe and Brockton are all thriving little towns, surrounded by rich agricultural districts and with a bright future before them.

Special Opportunities—Farming, dairying, stock raising and wholesaling.

Climatological—The mean temperature and precipitation at Culbertson are given as follows by the United States Weather Bureau:

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Temp..	7.4	9.0	23.0	41.2	55.3	64.7	69.7	68.8	60.3	.....	25.8	14.3	.....
Prec....	.50	.36	.51	.61	2.39	3.21	2.16	1.85	1.30	.....	0.32	0.27	.....

SANDERS COUNTY.

Date of Creation, March 1, 1906.

Land Area, 2,837 Square Miles.
County Seat, Thompson Falls.
Altitude County Seat, 2,462 Feet.
Population, 1920, 3,949.
Population County Seat, 1920, 508.
Growing Season, 111-132 Days.

General Description—Sanders county lies in northwestern Montana. The Idaho line marks its western boundary, and the crest of the Coeur d'Alene Mountains most of the southern boundary. The Cabinet Range marks the northern boundary in a general way. Between these two ranges the Clark's Fork of the Columbia flows westerly the length of the county. In places the valley along the river widens out into broad prairie basins and in other places becomes of a gorge-like narrowness. Lumbering, agriculture, horticulture, dairying and mining are the chief activities.

Surface and Soil—Agricultural pursuits are confined to the valley of the Clark's Fork of the Columbia and along the tributary streams that flow into it. The bottom lands are of a deep sandy loam, while a gravelly loam predominates on the bench lands.

In the western half of the county the land is either cut-over land or natural meadow. Almost all of it is irrigable by private projects. Near Thompson Falls, 3,000 acres in one tract are irrigated from the Thompson River. This section of the county is admirably adapted to dairying, clover and other forage crops growing in abundance. The vast area of national forest reserve furnishes cheap pasturage.

Crops—Wheat, clover, timothy, oats, potatoes, peas, barley and fruits that include apples, plums, cherries, pears, strawberries and some peaches. Fruit does well in the main valley.

Drainage and Water Supply—The Clark's Fork of the Columbia carries a larger volume of water than does the Missouri River in Montana. It is fed by numerous tributaries rising in both the Coeur d'Alene and Cabinet Mountains.

Industries—Lumbering is the chief industry, but agriculture and dairying are making much progress.

Mineral Resources—Silver, lead, zinc, copper and gold are the chief minerals. Development, however, has not been carried much beyond the prospecting stage.

Timber—There are over a million acres of Sanders county included within national forests. Along the Thompson River is one of the most valuable stands of white pine to be found in the United States and the mountains have valuable tracts of yellow pine, fir, cedar and larch. There are 37,815 acres in Sanders county included in the Lolo Forest and 965,963 acres in the Cabinet National Forest.

Land Values—Lands in the cut-over regions sell at from $10 to $15 an acre. In the prairie sections the price ranges from $20 to $100 an acre.

Transportation and Highways—The main line of the Northern Pacific follows the Clark's Fork of the Columbia through the county. The National Parks Highway and the Yellowstone Trail parallel the railway.

Education—Besides the rural and graded schools in the county there are three high schools. Those at Thompson Falls and Plains are accredited for the four year course, and the high school at Paradise for a two year term.

Tourist Attractions—As an outdoor land Sanders county can compete with any section of the United States. A score of wonderful trout fishing streams, great areas of virgin forests inhabited by deer, elk, cougar, bear, wildcats, mountain lions, bighorn and mountain goats offer the best hunting and fishing. Camp sites at beautiful mountain lakes are easily accessible by national forest trails.

Digitized by Google

Hot Springs, twenty miles from Perma, on the Northern Pacific, on the Flathead Indian reservation, is noted for its medicinal waters and mud baths. The springs, located midway between the towns of Camas and Hot Springs, have been leased by the interior department to a company which is developing them as a health and pleasure resort. The lease includes more than 100 acres. It is contemplated to build an electric line connecting the springs with the railroad and extending beyond the springs about forty miles. The mud baths are famous as a cure for rheumatism, while the waters are noted for their beneficial effects in the treatment of venereal diseases and intestinal troubles. Unlike the great majority of mud baths, those at Hot Springs continuously throw out hot mud which runs away with the water. The springs are open throughout the year.

Cities and Towns—Thompson Falls, the county seat, has good schools, churches, two banks, a newspaper, a good hotel and good stores. It has a good water works system. The Montana Power Company has made a big hydro-electric installation at this point, the power being used to drive the Milwaukee trains. Plains, in the productive Plains Valley, is the outlet for a large portion of the fertile Flathead reservation region. It has a system of water works, electric lights, elevator, a $25,000 public school building, four churches, two banks, a newspaper and good stores. Some of the finest farms in the county are in the vicinity of Plains. Paradise, east of Plains, is a railroad division point. Perma and Dixon are agricultural centers in the eastern end of the county, and Heron, Noxon, Trout Creek, Whitepine, Alger and Belknap in the western end.

Special Opportunities—Development of dairying and agriculture on the cut-over lands.

Climatological—The mean precipitation in the county is not available. The mean temperature at Plains, as given by the United States Weather Bureau, is as follows:

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Temp..	25.6	27.1	36.6	45.0	52.2	58.4	68.8	64.0	55.5	45.8	35.8	27.7	45.2

SHERIDAN COUNTY.

Date of Creation, March 24, 1913.

Land Area, 1,758 Square Miles.
County Seat, Plentywood.
Altitude County Seat, 2,046.
Population County, 1920, 13,847.
Population County Seat, 1920, 888.
Growing Season, 98 Days.

General Description—Sheridan county lies in the northeastern corner of Montana. There are no mountains and three-fourth of the county's area is cultivable. There is very little irrigated land.

Surface and Soil—The soil is principally of a sandy or chocolate loam variety. There are several long, wide valleys but most of the county consists of rolling bench lands. The drainage is to the south.

Crops—Non-irrigated crops are raised almost exclusively. Flax, wheat, oats, rye, barley, corn and hay are the chief ones. Some millet and buckwheat are also raised. Potatoes and other root crops and garden stuff generally do well.

Drainage and Water Supply—The county is traversed by the Big Muddy River which rises in Canada and empties into the Missouri River. Small creeks run into the river every few miles. The drainage is good. Water is found in wells at depths ranging from 10 to 300 feet.

Industries—Sheridan county is exclusively an agricultural and stock raising community. It has other potential raw resources the value of which has not been determined.

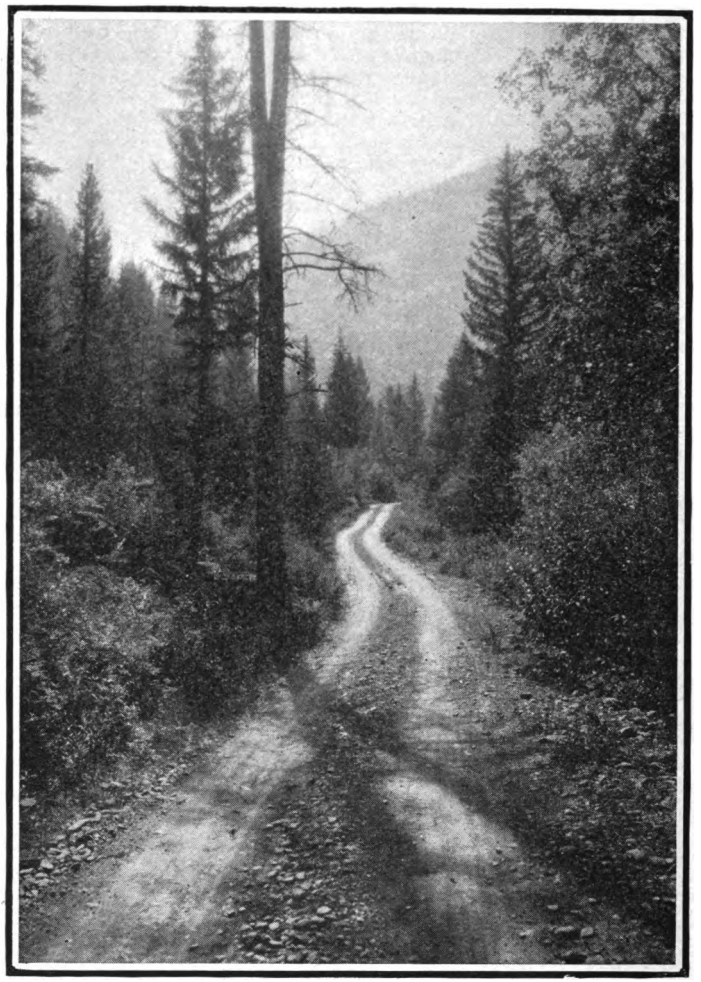
Mineral Resources—In every locality lignite coal is found, making an easily accessible and cheap fuel. Several structures have been reported upon as having oil possibilities.

Timber—Cottonwood is found along the streams but there is no commercial timber.

Land Values—Improved non-irrigated land sells around $40 an acre, unimproved non-irrigated from $15 to $25 an acre and grazing land around $10.

Transportation and Highways—The Great Northern and Soo lines both serve Sheridan county. A Great Northern branch leaves the main line at Bainville and runs north through Roosevelt county to Plentywood, there swings west and its present

Digitized by Google



Through the Woods on a Mountain Tour

terminus is at Scobey, the county seat of Daniels county. The Soo has a branch that enters Sheridan county from Dakota, a few miles south of the international boundary, and runs west to Whitetail. There are good graded highways in the county.

Education—Sheridan county has good graded schools and four accredited high schools, one of which at Plentywood is accredited for the four year term. There are approximately 30 churches in the county, Catholic and Protestant.

Cities and Towns—Plentywood, the county seat; Medicine Lake and Antelope are the principal communities, but there are probably more small towns in Sheridan county, in proportion to its area, than in any other county in the state.

Special Opportunities—Agriculturally Sheridan county is well developed. It has plenty of elevators and flour mills, but openings are here for other industries that are dependent upon agriculture.

Climatological—The Plentywood station of the United States Weather Bureau has not been maintained long enough for the mean temperature and precipitation to be determined.

Digitized by Google

SILVER BOW COUNTY.

Date of Creation, February 16, 1881.

Land Area, 698 Square Miles.
County Seat, Butte.
Altitude County Seat, 5,767.
Population County, 1920, 60,313.
Population County Seat, 41,611.
Growing Season, 108 Days.

Silver Bow county is in the south-central-western portion of Montana, the main range of the Rocky Mountains marking its eastern boundary, while the Highland Mountains and the Big Hole River form the southern boundary. The western boundary is an irregular line formed by hills and mountains separating Silver Bow and Deer Lodge counties. Silver Bow is practically a triangle, and was named for the principal creek in the county, which creek at a point a few miles west of Butte takes the shape of a beautifully arched bow. This creek also is the farthest eastern source of the northern branches of the Columbia River.

The county lies at a high altitude, the lowest points being around 5,000 feet above sea level, while the peaks of Red Mountain and of Table Mountain in the Highlands rise to approximately 10,000 feet above sea level. Owing to the high altitude the variety of plant life grown successfully within the county is limited to the short summer season common to high altitudes in this latitude. Truck gardening and farming are carried on to a limited extent with good results, and the raising of certain kinds of flowers which need long days and relatively mild sun-heat has been particularly successful at the Columbia Gardens, in the mountains three miles east of Butte. Here are to be seen some of the largest and finest specimens of pansies and begonias grown anywhere in the United States. The county, however, depends almost entirely upon its mining enterprises and jobbing business.

Aside from the city of Butte and its immediate suburbs and environs, the population of Silver Bow county is very small and the county presents the unusual proposition of being the smallest and most compact of Montana's fifty-four counties, yet is the wealthiest and the most populous. Butte is surrounded by suburbs of Walkerville, Meaderville and Centerville and also by a large amount of contiguous but not annexed territory thickly populated and practically a part of the city itself. In fact, almost the entire population of the county is found within a radius of five miles of the county court house. Butte is the largest city between Minneapolis, Minn., and Spokane, Wash.

Butte originally was a placer gold mining camp. In the hey-day of silver production that metal was its mainstay, then copper was discovered, and more recently it has been found that zinc and manganese exist in vast quantities along with silver and copper. Butte is in many ways the greatest single metal producing city of the world, and according to the records of the United States Geological Survey the mines of Butte produce more silver, copper and zinc than the mines of any other single mining district in the world. The approximate production of silver in 1919 was $13,290,000, of copper $33,687,00, and of zinc $11,000,000, but 1919 was a sub-normal year because of labor difficulties and the low price of copper. Normally the mines of Butte produce far over the hundred million mark in these three metals, and in addition a great deal of gold, manganese and lead is extracted from the Butte ores. The normal underground forces and surface forces of workmen in the Butte mines average between 15,000 and 20,000 men. Almost the entire copper, zinc and silver production of Montana comes from the mines of Butte, as well as a great percentage of the manganese and gold mined in the state.

As a distributing center Butte has for many years ranked first in Montana because of the fact that it is on four transcontinental railways—a fortunate circumstance not enjoyed by any other city in Montana, Idaho, Wyoming or North Dakota. The main lines of the Chicago, Milwaukee & St. Paul railway, the Northern Pacific railway, the Oregon Short Line division of the Union Pacific and the Havre division of the Great Northern railway, give Butte direct shipping connections with every part of Montana, Idaho and Wyoming. In addition, Butte and Anaconda are linked closely together by the Butte, Anaconda and Pacific railway, a short rail line, but one of the most important commercially in the entire west because of its great freight tonnage.

These excellent rail facilities naturally have caused Butte to become the leading jobbing and distributing city of Montana, and commodities of almost every variety are handled in wholesale quantities in Butte. Half the population of Montana resides within a shipping radius of one hundred miles of Butte, and in addition the Salmon River and Dubois districts of Idaho are far closer to Butte than to any other jobbing

Digitized by Google

and wholesale center. The importance of Butte commercially is shown by the fact that many large companies having their headquarters in the east have their chief offices in Butte for Montana and adjoining territory. Butte has always been Montana's chief distributing point for tires, automobile sundries, etc., and in addition is one of the state's leading meat packing centers. Plans are now on foot to construct in Butte the largest live stock yards between the Twin Cities and Spokane, Wash.

In addition to being the hub for transcontinental rail service, Butte also is on the main Park-to-Park Highway, the Yellowstone Trail, and the proposed International Highway, to connect Utah and Canada.

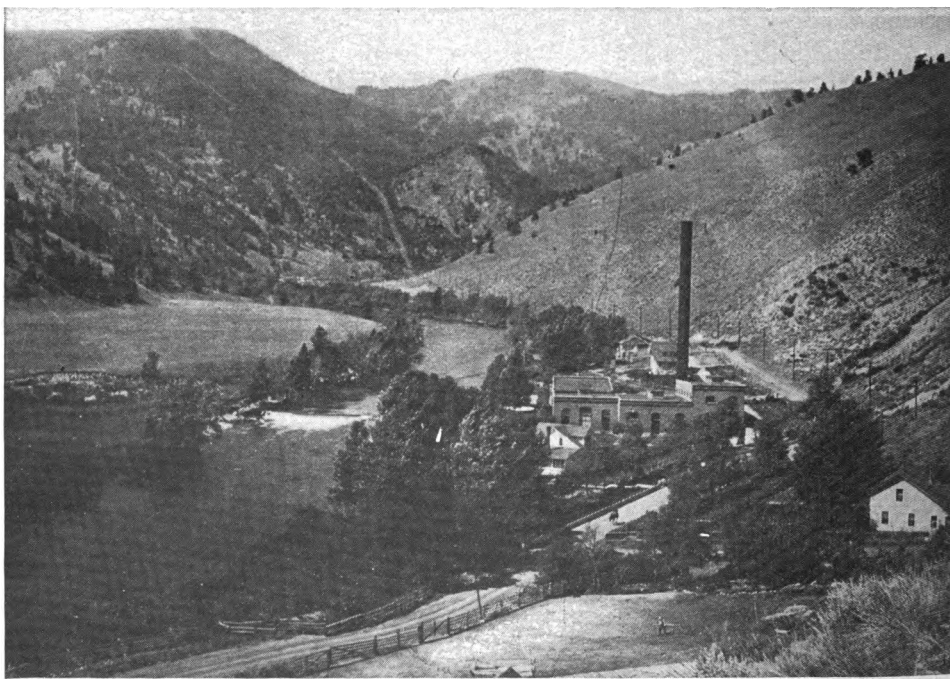
For years Butte has been known as one of the most unique cities in the world from the sightseer's standpoint, but its wonderful mines have also been the lode stone that has drawn thousands of scientists to Montana. Some of the mines are now approximately 4,000 feet deep, the mechanical equipment is the best money can buy, and the scientific investigations and experiments that have been successfully carried on by the mine operators of Butte have been copied the world over.

In addition to an extensive public school system, comprising 20 schools, employing 325 teachers and caring for 10,000 pupils, there is a well developed system of parochial schools both for grade and high school students, and the State School of Mines, a part of the University of Montana; two business training schools, and several private schools for instruction in music, etc., are located in Butte. As a technical institution the Montana State School of Mines ranks very high.

The city has churches of every denomination, a half million dollar Y. M. C. A., Silver Bow Club, Country Club, Elks Club, Masonic Temple, Knights of Columbus Home, several hospitals, four leading hotels, and seven banking institutions with a total capital and surplus of over $2,000,000 and assets aggregating $28,500,000.

The mean temperature and precipitation at Butte are given by the United States Weather Bureau as follows:

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Temp..	24.5	24.3	30.4	40.6	48.4	56.0	63.5	62.6	52.9	43.8	34.2	25.4	42.2
Prec....	0.85	0.77	0.94	1.16	2.18	2.23	1.26	0.92	1.11	0.93	0.72	0.67	13.74



Pumping Plant of the Butte Water System

Digitized by Google

STILLWATER COUNTY.

Date of Creation, March 24, 1913.

Land Area, 1,648 Square Miles.
County Seat, Columbus.
Altitude County Seat, 3,698.
Population County, 1920, 7,630.
Population County Seat, 1920, 897.
Growing Season, 122 Days.

General Description—Stillwater county lies in the south central part of Montana with a maximum length north and south of 66 miles and a maximum width east and west of 36 miles. The Yellowstone River bisects the county east and west. Aside from the land in the Yellowstone Valley that portion of the county north of the river is devoted chiefly to non-irrigated farming. The valley lands in the southern portion of the county are irrigated and the bench lands are devoted to non-irrigated farming and stock raising. High mountains rise in the southern end.

Surface and Soil—The Lake Basin country in the northern part of the county is considered one of the best non-irrigated farming districts in Montana. The soil is deep and heavy. In the Yellowstone Valley the soil is a chocolate brown loam. The soil in the valleys in the southern part of the county is also good. The southern part of the county contains magnificent mountains which taper off into rolling hills near the Yellowstone Valley.

Crops—Wheat, oats, barley, corn, alfalfa, peas, potatoes, melons and garden truck. Some fruit is grown. Strawberries do especially well. Stillwater is one of the leading honey producing counties of the state.

Drainage and Water Supply—The Yellowstone is the principal stream. In the southern portion of the county are found the Stillwater and West Rosebud Rivers and Fishtail Creek. Several smaller streams are found in the northern part.

Industries—Agriculture, stock raising and dairying are the chief industries but the county has undeveloped mineral and water power resources.

Mineral Resources—Coal and various kinds of minerals have been found in the southern part of the county, but development has not reached a commercial scale. Much land north of the Yellowstone River has been leased for oil and drilling has been undertaken.

Timber—There are 92,096 acres of the southern part of the county included in the Beartooth National Forest.

Land Values—Improved irrigated lands sell from $75 to $200 an acre, improved non-irrigated lands from $40 to $100 and unimproved non-irrigated lands from $15 an acre up.

Transportation and Highways—The main line of the Northern Pacific follows the Yellowstone Valley through the county, and a branch line of the same road from Mossmain taps the Lake Basin country in the northern end of the county. The Yellowstone Trail Highway traverses the county. Good local roads connect the smaller valleys with the railroad.

Education—There is a high school at Columbus accredited for the four year term, one at Park City accredited for three years and one at Reed Point for two years. Good rural schools are maintained throughout the county. At East Rosebud Lake, in the heart of the mountains, a private summer school for teachers is maintained. Credit for work done there is given by the state department of education and also by the University of Montana.

Tourist Attractions—The headwaters of the Stillwater and Rosebud Rivers contain scenery that is as fine as is to be found on the continent. No better trout fishing is to be had in spring and summer than in these mountains. Birds and game abound in the fall. Splendid water fowl shooting is to be had on the lakes of the Lake Basin region.

Cities and Towns—Columbus, the county seat, is the only incorporated town in the county, and the chief trading center. It lies at the junction of the Yellowstone and Stillwater Rivers. Park City and Reed Point are good trading centers along the main line of the Northern Pacific, while along the Lake Basin branch are Molt, Rapelje and Wheat Basin. Absarokee, an inland town in the Stillwater Basin, is the most important community in the southern part of the county.

Digitized by Google

Special Opportunities—Further development of agriculture, stock raising and dairying. Development of good sized water power sites, the mineral region about Nye, and building up of a tourist business in the mountains.

Climatological—Official records showing the mean temperature and precipitation for the county are not available. See records for Billings (Yellowstone county) and Livingston (Park county.)

SWEET GRASS COUNTY.

Date of Creation, March 5, 1913.

Land Area, 1,932 Square Miles.
County Seat, Big Timber.
Altitude County Seat, 4,072 Feet.
Population, 1920, 4,926.
Population County Seat, 1920, 1,282.
Growing Season, 112-122 Days.

General Description—Sweet Grass county lies in the south central part of Montana. It is almost a right angle in shape, with the base on the north. The Yellowstone Valley divides the county north and south. The southern portion is chiefly devoted to stock raising and the northern portion to agriculture. There is a large Carey irrigation project in the county and considerable land is still open to filing. High timbered mountains rise in the south end of the county. Considerable mineral has been found in them.

Surface and Soil—The Yellowstone Valley, about 55 miles long through the county by two to five miles wide, and the valleys of the Boulder, Big Timber, Sweet Grass, American Fork and Otter Creeks are the chief agricultural districts. Besides the land under the Carey project considerable acreage in these valleys is irrigated from private ditches. The soil varies from a deep black loam to a light soil with a gravel sub-soil.

Crops—Hay, both wild and alfalfa, and all kinds of small grain are the chief crops. Considerable garden truck is also raised and some fruit.

Drainage and Water Supply—The Yellowstone River runs from west to east nearly through the center of the county. On the south the land rises from the level of the river to a high range of mountains in which the Boulder and Stillwater Rivers head; on the north the land rises to the Crazy Mountains in which rise Big Timber, Sweet Grass and Otter Creeks.

Industries—Cattle and sheep growing are still the most important industries, though agriculture is advancing. Dairying, swine raising and bee keeping are being developed. There are considerable areas of good grazing land in the county.

Mineral Resources—While mineral of various kinds has been found in the southern end of the county, not sufficient development work has been done to determine the value of the deposits. Some coal has been found.

Timber—While there is timber in the Crazy Mountains in the northwestern part of the county, the chief timbered area is in the southern end, where 200,273 acres of the county are included within the Beartooth National Forest.

Land Values—Irrigated lands range in price from $60 to $150 an acre, depending upon location and degree of improvement; non-irrigated farming lands range in value from $15 to $30 and grazing land from $7 to $12 an acre.

Transportation and Highways—The main line of the Northern Pacific parallels the Yellowstone River through the county, as do all the main transcontinental highways. Surveys have been made for branch railroad lines through the northern part of the county but when they will be built is problematical.

Education—Besides the rural schools there are graded schools in Big Timber and the Sweet Grass county high school, accredited for a four year course, is located there.

Tourist Attractions—Magnificent scenery and fine fishing and hunting are to be found in the southern part of the county.

Cities and Towns—Big Timber, the chief town, is also the county seat. It is an attractive place with fine business establishments and residences. It also has elevators, creamery, newspaper, hotels, electric lights, water works system and court house. It is the center of a rich region. There is estimated to be about 20,000 horse power available from the Yellowstone River at this place. Melville and McLeod are other towns of importance in this county.

Special Opportunities—Development of the irrigated land, there being considerable acreage for which water is available that has not been farmed.

Climatological—No official records are available showing the mean temperature and precipitation. See records of Billings (Yellowstone county) and of Livingston (Park county.)

Digitized by Google

TETON COUNTY.

Date of Creation, March 1, 1893.

Land Area, 1,650 Square Miles.
County Seat, Choteau.
Altitude County Seat, 3,810.
Population County, 1920, 5,870.
Population County Seat, 1920, 1,043.
Growing Season, 77-130 Days.

General Description—Teton county lies in the northwestern part of Montana on the east side of the main range of the Rockies. It is 44 miles long east and west by 36 wide north and south. About 100,000 acres are under irrigation and it is estimated that the total irrigable area is about one-third the area of the county.

Surface and Soil—All of the central and eastern portions of the county are tillable, while the extreme western and southern portions are about equally divided between arable and grazing lands. A small area of the grazing land is in the Rockies and mountainous. The soil is a sandy or clay loam on the lowlands. On the uplands or benches the sub-soil is partly gravel and limestone formation.

Crops—Wheat is the principal crop, but heavy yields of flax, barley, alfalfa and sweet clover are common. Corn and sunflowers are grown extensively for forage and a start has been made in silo construction.

Drainage and Water Supply—The water supply is exceptionally good. The chief streams are the Teton, Spring Creek, Willow Creek and Sun River. Water can be secured in wells in most places at depths ranging from 60 to 100 feet. Water for the irrigation near Fairfield in the east central part of the county of 30,000 acres in what is known as the government Sun River Project is obtained from the Sun River.

Industries—Agriculture and stock raising are the chief industries.

Mineral Resources—There are indications of coal and oil, but sufficient development work has not been done to determine their value.

Timber—Aside from cottonwood and willows along the streams, the timber of commercial value is found in the western part of the county, where 250,000 acres are included within the Lewis and Clark National Forest.

Land Values—Prices of land vary widely, from $75 to $100 an acre for irrigated land and from $20 to $100 an acre for improved non-irrigated tracts. Grazing land brings from $8 to $15 an acre.

Transportation and Highways—Teton county is served by branch lines of both the Milwaukee and the Great Northern railways. The Park-to-Park Highway traverses the county from north to south and is being gravel surfaced. It is the main highway trunk line of the county.

Education—There are 60 schools in the county, including a modern county high school at Choteau, accredited for a four year course. It is housed in a new $100,000 building.

Tourist Attractions—Some of the finest hunting and fishing in the state is to be found in the mountainous sections of the county, as well as magnificent scenery. The best places are accessible only with pack outfits, so their attractions have been less affected by the settlement and development of the country than many other regions.

Cities and Towns—Choteau, the county seat, is an old established town, with all modern improvements. It has three banks with a combined capital and surplus of $200,000. Other good towns and market centers are Bynum, Pendroy, Power, Dutton and Collins, all along the Great Northern; Fairfield, Farmington and Agawam along the Milwaukee.

Special Opportunities—Agriculture and stock raising are the chief opportunities. There is good grazing land and an abundance of irrigated land to be developed by diversified farming. In a number of the towns it is reported there are good openings for wide-awake and progressive merchants.

Climatological—The only official weather data available on Teton county from the United States Weather Bureau is that showing the mean precipitation at Blackleaf, in the northwestern part of the county. It is as follows:

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Prec....	0.56	0.48	0.56	0.79	3.32	3.73	1.59	1.78	2.05	1.12	0.65	0.45	17.08

It is likely that farther east and away from the mountains the precipitation would be a little less.

Digitized by Google

TOOLE COUNTY.

Date of Creation, May 7, 1914.

Land Area, 1,949 Square Miles.
County Seat, Shelby.
Altitude County Seat, 3,286 Feet.
Population County, 1920, 3,724.
Population County Seat, 1920, 537.
Growing Season, 93-106 Days.

General Description—Toole county lies in northern Montana, its northern boundary being the Canadian line. It is exclusively a stock raising and agricultural county and by far the larger portion of its acreage is tillable. Of great importance to the future of the county is a proposed irrigation district, embracing between 200,000 and 300,000 acres, that has been launched by the land owners and which engineers pronounce feasible. It is now being put into shape for construction.

Surface and Soil—Save for the Sweet Grass Hills in the northeastern corner of the county, and the brakes along the Marias River near the southern border, Toole county is virtually all rolling prairie.

Crops—Wheat, oats, barley, flax and native hay are the chief crops. With irrigation, much alfalfa will be raised.

Drainage and Water Supply—The Marias River forms a portion of the southern boundary of the county and flows through the southeastern portion. The eastern part is watered by several creeks, the largest of which is Willow, which rises in the Sweet Grass Hills and flows in a southerly direction through the county.

Industries—Agriculture and stock raising are the only industries.

Mineral Resources—Indications are considered favorable for the discovery of oil and gas, particularly in the Sweet Grass Hills.

Land Values—Land values range from $10 to $50 an acre.

Transportation and Highways—The main line of the Great Northern traverses the county east and west and is paralleled by the Roosevelt Memorial Highway. The Burlington-Great Northern line from the south connects with the main east and west line at Shelby, and a branch line runs northward from Shelby to the Canadian border where connection is made with the Canadian Pacific. With the development of the region, Shelby is certain to be an important point for a considerable territory.

Education—There is a high school at Shelby accredited for the four year term, and rural schools are found in all communities.

Tourist Attractions—Striking scenery in the Sweet Grass Hills.

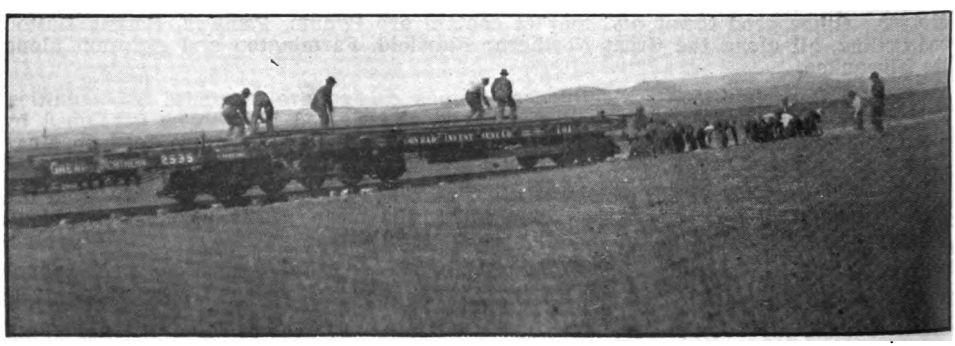
Cities and Towns—Shelby, the county seat and principal town, is a railroad junction point and is the trading center for a large and productive territory. Sweet Grass, in the northern part of the county, is a port of entry from Canada. Galata and Devon, in the eastern part of the county, are good farming towns.

Special Opportunities—Development of the agricultural resources.

Climatological—The only official weather record for the county is the mean precipitation at Gold Butte, in the Sweet Grass Hills, for each month save march. It is as follows:

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Prec....	0.55	0.33	.....	0.62	2.30	3.98	1.51	1.66	1.50	0.58	0.40	0.23	.....

See also records for Havre (Hill county.)



Opening Up a New Country

Digitized by Google

TREASURE COUNTY.

Date of Creation, April 1, 1919.

Land Area, 997 Square Miles.
County Seat, Hysham.
Altitude County Seat, 2,667 Feet.
Population County, 1920, 1,990.
Population County Seat, 1920, 360.
Growing Season, 120-144 Days.

General Description—Treasure county lies in the south central part of Montana, and has a maximum length north and south of 36 miles, and a maximum width of 24 miles. In area it is the second smallest exclusively agricultural county in the state. Stock raising and agriculture, both irrigated and non-irrigated, are the principal industries, and both are well developed.

Surface and Soil—The Yellowstone Valley divides the county. The soil there is a deep loam, while a chocolate loam is the prevailing type on the bench lands. There are approximately 15,000 acres irrigated in the Yellowstone Valley, while 114,788 acres of the remainder of the county are classified as suitable for non-irrigated farming and 222,769 acres as adapted to grazing.

Crops—All small grains and hay do well. Corn has been demonstrated to be an especially good crop, in both yields and quality, comparing favorably with the corn belt product. In the irrigated district farmers are specializing in raising alfalfa seed and they have developed a steady market at attractive prices for every carload of seed shipped. Considerable honey is raised in the county.

Drainage and Water Supply—The Yellowstone River, flowing easterly through the county, is the principal stream. A number of small creeks drain into it from both the north and south sides of the county.

Industries—Agriculture, cattle and sheep raising are the only industries.

Mineral Resources—There is some prospecting in the county for oil and gas. Some coal has been found.

Timber—There is no commercial timber in the county. Cottonwood and ash are found along the streams.

Land Values—Land prices vary widely. Irrigated land brings from $100 to $200 an acre, non-irrigated farming lands from $15 to $50 and grazing land from $5 to $12 an acre.

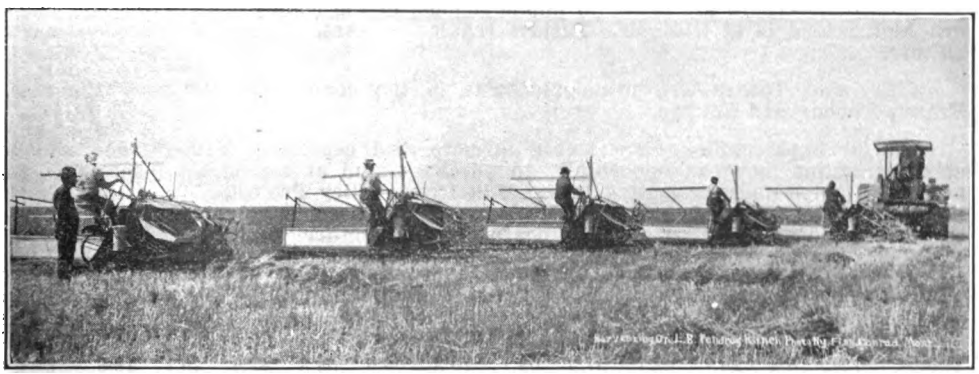
Transportation and Highways—The main line of the Northern Pacific crosses the county, and is paralleled by the Yellowstone and Red Trails.

Education—Besides the rural schools in the county there are graded schools at Hysham and a high school that is accredited for the four year course.

Cities and Towns—Hysham, the county seat, is the largest town and the chief trading center. Other communities in the county are Big Horn, Ranchers, Myers and Sanders.

Special Opportunities—Further specialization in agriculture such as dairying, bee-keeping and seed growing and development of the pure bred live stock business.

Climatological—No official records are available for the county showing precipitation or temperature. See records of Billings (Yellowstone county) and of Miles City (Custer county.)



Ready for a Big Job

Digitized by Google

VALLEY COUNTY.

Date of Creation, March 1, 1893.

Land Area, 5,064 Square Miles.
County Seat, Glasgow.
Altitude County Seat, 2,093.
Population County, 1920, 11,542.
Population County Seat, 1920, 2,059.
Growing Season, 111 Days.

General Description—Valley county lies in the northeastern quarter of Montana, the Missouri River marking its southern and the Canadian line its northern boundaries. The Milk River flows through the county from west to east and when the government Milk River Reclamation Project is completed practically the entire Milk River Valley will be under irrigation. There are also a number of private irrigation projects. Non-irrigated farming is followed on the rolling benches north and south of the Milk River Valley. The county is 110 miles long north and south and 73 miles wide east and west.

Surface and Soil—Aside from several low spurs of hills and the brakes along the Missouri River in the southern part of the county, the county except in the Milk River Valley is a rolling prairie. Practically all of it north of the Milk River Valley is cultivable. Both light and dark loams are found with either gumbo or a limestone base.

Crops—Wheat, flax, barley, speltz, oats, corn, blue joint hay and alfalfa are the principal crops. Milk River Valley blue joint is rated one of the best forage feeds in Montana and is considered a stronger feed than alfalfa. Vegetables grow in abundance and are of excellent quality.

Drainage and Water Supply—The Milk River is the principal stream and many smaller streams flow into it from the north and the south. The spring run-off from many of these smaller streams is large and when reservoirs are constructed at available storage sites more land will be placed under irrigation.

Industries—Agriculture and stock raising are the chief industries. Considerable alfalfa seed is raised. At Glasgow there is a 400 barrel flour mill.

Mineral Resources—Lignite coal is found in abundance throughout the county. The possibilities are considered good for finding oil.

Timber—There is no commercial timber in the county. Cottonwood is found along the streams.

Land Values—Improved irrigated lands sell from $50 to $75 an acre, improved non-irrigated lands from $25 to $50 an acre, non-improved cultivable lands from $20 to $40 an acre, and grazing lands at $10 to $15 an acre.

Transportation and Highways—The main line of the Great Northern follows the Milk River Valley through the county. Auto stage lines run from Glasgow north to Glentana, Opheim and Baylor. The Theodore Roosevelt Highway passes through the county, following the railroad and touching the towns of Oswego, Frazer, Nashua, Glasgow, Tampico, Vandalia, Hinsdale and Beaverton. The county voted $200,000 worth of bonds in 1920 for construction of highways under the federal aid act.

Education—There are about 75 public schools in the county. An up-to-date modern high school is at Glasgow. Besides regular courses, it gives a course in agriculture.

Cities and Towns—The principal towns in the county are Glasgow, Hinsdale, Frazer, Thoeny and Oswego.

Special Opportunities—Experienced farmers, and especially farmers who understand irrigation, have an opportunity to purchase land at reasonable prices. There are 40,000 acres under irrigation in the Milk River Valley Project. These lands have been but little improved, but with development will become valuable. More experienced farmers with capital are also needed on the non-irrigated lands.

Climatological—The mean temperature and precipitation at Glasgow, as determined by the United States Weather Bureau, are as follows:

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Temp..	6.9	6.2	23.7	42.1	57.9	63.7	70.3	68.5	58.3	42.4	26.1	13.8	35.7
Prec....	0.56	0.46	1.16	0.97	2.55	2.52	1.11	1.08	0.95	0.79	0.55	0.55	13.25

Digitized by Google

WHEATLAND COUNTY.

Date of Creation, April 1, 1917.

Land Area, 1,436 Square Miles.
County Seat, Harlowton.
Altitude County Seat, 4,163 Feet.
Population County, 1920, 5,619.
Population County Seat, 1920, 1,856.
Growing Season, 91 Days.

General Description—Wheatland county, lying in central Montana, is almost square in shape, 36 miles north and south by 40 miles east and west. It is fairly well developed in an agricultural and live stock way. Non-irrigated farming has been followed with success and for this type of farming the county is considered one of the best. Harlowton, the county seat, situated in almost the exact center of the county, is a railroad division and junction point.

Surface and Soil—The crest of the Little Belt Range of mountains forms part of the county's northern boundary, and the Big Snowy Mountains jut over on the remainder of this boundary, making the northern part of the county somewhat rough and broken. Along the west side the country is also broken, and these districts are devoted principally to cattle and sheep raising. The soil in the farming areas is chiefly a chocolate loam.

Crops—Both winter and spring wheat are grown in the county, and this is the chief crop, although considerable barley, oats and flax are also raised, and in the irrigated districts along the Musselshell River and its tributaries considerable hay, both native and alfalfa. The county's agricultural reputation has been made upon its non-irrigated lands.

Drainage and Water Supply—The Musselshell River flows through the middle of the county from west to east and is fed by numerous tributaries that rise in the mountains.

Industries—Stock raising and agriculture; milling. Harlowton is a railroad division point.

Mineral Resources—Much prospecting for oil is being done at present. Lignite coal exists.

Timber—There are 6,809 acres of the Absarokee National Forest included within Wheatland county and 57,040 acres of the Jefferson National Forest.

Land Values—Improved non-irrigated lands sell from $20 to $70 an acre and irrigated lands from $75 to $125 an acre.

Transportation and Highways—The main line of the Chicago, Milwaukee and St. Paul passes through the county east and west, the Great Northern line from Billings to Great Falls that is used by the Burlington to the coast passes through the northeastern part of the county, and the Milwaukee has a branch out of Harlowton northward to Lewistown and Great Falls. The Electric Highway parallels the Milwaukee main line through the county.

Education—Besides good graded schools there is a high school at Harlowton accredited for the four year course. In addition to the usual studies, it has a course in agriculture under the provisions of the Smith-Hughes Act. There is also a high school at Hedgesville accredited for two years, and rural schools throughout the county.

Cities and Towns—Harlowton, the county seat, is the principal town in the county, has electric lights, sewage and water systems and other modern conveniences. Big flour mills are located here and it ranks among the three largest milling centers in the state. Harlowton is a division point on the Milwaukee and the terminus on the east of the electrified portion of the road. Other towns on the main line of the Milwaukee are Two Dot, Valencia, Winnecock, Shawmut and Pontiac; on the Milwaukee branch northward, Oka and Wright, and on the Great Northern, Judith Gap, Oxford, Nihill and Hedgesville.

Special Opportunities—Agriculture and stock raising.

Climatological—There are no official weather records available showing the mean temperature and precipitation for the county. See records of Lewistown (Fergus county.)

Digitized by Google

WIBAUX COUNTY.

Date of Creation, August 17, 1914.

Land Area, 944 Square Miles.
County Seat, Wibaux.
Altitude County Seat, 2,635 Feet.
Population County, 1920, 3,113.
Population County Seat, 1920, 611.
Growing Season, 107-116 Days.

General Description—Wibaux county lies in far eastern Montana, the Montana-Dakota line marking its eastern boundary. It is midway between the northern and southern boundaries of the state and is the smallest exclusively agricultural county in Montana. Practically its entire area is tillable, and that which is not farmed is devoted to live stock.

Surface and Soil—The soil is a deep loam. The western half of the county slopes toward the west. Beaver Creek Valley, extending in a northerly direction from near the southern boundary, is the best developed agricultural section.

Crops—Wheat, oats, corn, barley, flax and potatoes are the chief crops. In the past two years the acreage in corn has been greatly expanded.

Drainage and Water Supply—There are no large streams in the county. Beaver Creek is the largest and longest. It flows northerly and then easterly into North Dakota. All the other creeks flow westerly into the Yellowstone River.

Industries—Agriculture and stock raising are the chief industries.

Mineral Resources—Lignite coal is found in the county.

Timber—There are no commercial stands of timber.

Land Values—Improved non-irrigated lands bring from $25 to $50 an acre, and unimproved from $10 to $25.

Transportation and Highways—The main line of the Northern Pacific crosses the county east and west and is paralleled by the Red Trail automobile road from the east.

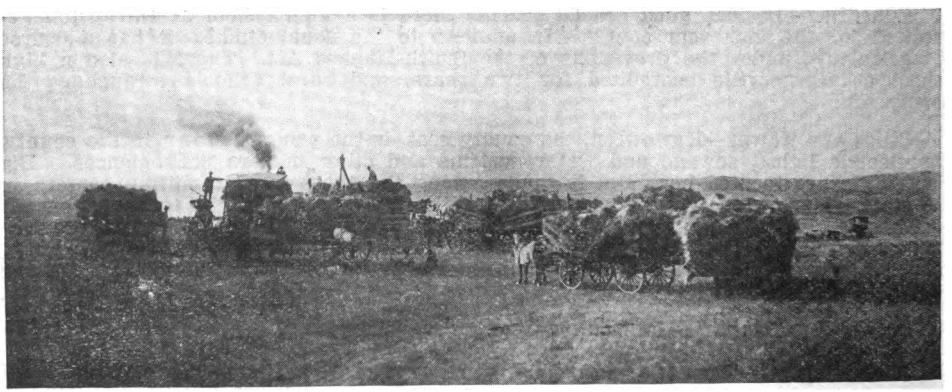
Education—Wibaux county has schools above the average. Besides graded schools in the town of Wibaux, the county high school is located there, and in addition to the ordinary studies has courses in agriculture and home economics under the provisions of the Smith-Hughes Act, and a normal training department under the provisions of a state law.

Cities and Towns—Wibaux, the county seat, is the largest town and chief trading center in the county. It has two banks, about twenty retail establishments, a creamery, five elevators with a combined capacity of 250,000 bushels, four garages, two hotels, two newspapers, a flour mill, city water works and an electric light plant. Other towns on the railroad are Yates and Beaver Hill. Smaller towns in the country districts are St. Philip, Edgehill, Dennis, Been, Brenizer and Carlyle.

Special Opportunities—Agriculture and stock raising.

Climatological—Incomplete records of the U. S. Weather Bureau showing the mean precipitation at the town of Wibaux are available as follows:

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Prec....	0.54	0.25	0.68	0.88	2.28	4.27	1.54	1.38	.....	.....	0.59	0.42	.....



On An Irrigation Project

Digitized by Google

YELLOWSTONE COUNTY.

Date of Creation, February 26, 1883.

Land Area, 2,708 Square Miles.
County Seat, Billings.
Altitude County Seat, 3,117.
Population County, 1920, 29,600.
Population County Seat, 1920, 15,100.
Growing Season, 100-135 Days

General Description—Yellowstone county, situated in southeastern Montana, is one of the best developed counties in the state, agriculturally, while its chief city—Billings—is one of the most important railroad and distributing centers in the state. Both irrigated and non-irrigated farming is followed and much stock is fed each winter in the Yellowstone Valley.

Surface and Soil—The Yellowstone Valley is broad and level. Sandstone bluffs are a characteristic of its boundaries and above them begin rolling bench lands that extend for miles. The soil for the most part is a chocolate colored loam. In the southeastern part of the county rise the Pryor Mountains.

Crops—Alfalfa, sugar beets, beans, potatoes and grains are the chief crops on the irrigated lands, and grains, flax, beans and alfalfa seed on the non-irrigated lands.

Drainage and Water Supply—The Yellowstone River is the principal source of supply for the irrigation ditches. It has a number of important tributaries that empty into it in Yellowstone county. Water for wells is encountered at 20 to 200 feet, depending upon locality.

Industries—Stock raising and diversified farming, and at Billings one of the largest sugar beet factories in the United States, packing plant, flour mills, breakfast food plant, pickle factory, foundry, sash and door factory, soap factory, brick yards. Billings is the principal distributing point in Montana for the large farm implement houses. Jobbers in many other lines are also located there.

Mineral Resources—There are no developed mineral resources. Some drilling for oil has been done in the county.

Timber—Cottonwood is found along the streams and there is some pine in the Pryor Mountains.

Land Values—There are upwards of 100,000 acres of irrigated land in the county which sells at from $50 to $250 an acre. Unimproved and non-irrigated lands adapted to grazing and general farming range in price from $15 to $50 an acre.

Transportation and Highways—The Great Northern, Northern Pacific and Chicago, Burlington & Quincy intersect in Yellowstone county and make Billings the natural trade center of a wide territory in Montana and northern Wyoming. The freight business in Billings is said to aggregate $5,000,000 annually. The Yellowstone Trail, the Custer Battlefield Highway and the Billings-Cody Way are among the important automobile roads in the county. Considerable hard surfaced highway has been built.

Education—Yellowstone county has a modern and up-to-date public school system, with an accredited high school in Billings and the Billings Polytechnic Institute, an institution of higher learning. This is also a business college.

Tourist Attractions—Billings is the gateway to the Beartooth Mountains in Carbon county, east of the Yellowstone Park, where besides unusually good hunting and fishing the scenery is unrivalled. Among the attractions is the Grasshopper Glacier, so called because millions of grasshoppers are embedded in the ice. Billings maintains a park for the accommodation of tourists and an airplane landing field.

Cities and Towns—The most important town in the county, as well as in eastern Montana, is Billings, which is thoroughly modern in all respects, and a big distributing center. Laurel is an important railroad town and agricultural market. Other good smaller towns are Huntley, Worden, Ballantine, Pompeys Pillar, Broadview, Custer and Shepard.

Special Opportunities—Growing of pure bred live stock and specialized agriculture are opportunities in the agricultural districts, while Billings is a good distributing location for a big and growing field.

Climatological—The mean temperature and precipitation at Billings, as determined by the United States Weather Bureau, are as follows:

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Temp..	22.2	24.7	33.7	47.0	56.7	64.7	71.6	70.0	61.1	48.5	34.6	27.4	46.8
Prec....	0.69	0.42	0.82	1.20	2.85	2.44	1.06	1.08	1.10	1.38	0.78	0.35	14.17

Digitized by Google

Montana Counties

Area in square miles, assessed valuation and population according to the 1920 census, and county seats of the subdivisions which constitute a great commonwealth.

County	County Seat	Area Square Miles	Assessed Valuation	Population
Beaverhead	Dillon	5,632	$29,843,639	7,246
Big Horn	Hardin	5,111	21,848,839	7,015
Blaine	Chinook	4,219	27,957,520	9,057
Broadwater	Townsend	1,248	14,681,274	3,239
Carbon	Red Lodge	2,108	27,680,837	15,279
Carter	Ekalaka	3,318	10,383,482	3,972
Cascade	Great Falls	3,411	126,497,581	38,836
Choteau	Fort Benton	4,432	49,902,252	11,051
Custer	Miles City	3,930	27,421,886	12,194
Daniels	Scobey	1,422	.....	.....
Dawson	Glendive	2,430	23,937,495	9,239
Deer Lodge	Anaconda	746	35,546,143	15,323
Fallon	Baker	1,685	16,388,475	4,548
Fergus	Lewistown	7,178	105,374,149	28,344
Flathead	Kalispell	6,380	49,860,167	21,705
Gallatin	Bozeman	2,529	56,221,327	15,864
Garfield	Jordan	4,913	14,850,957	5,368
Golden Valley	Ryegate	1,157	.....	.....
Glacier	Cut Bank	1,309	12,627,674	4,178
Granite	Philipsburg	1,728	12,055,739	4,167
Hill	Havre	2,884	35,650,825	13,958
Jefferson	Boulder	1,642	17,981,405	5,203
Judith Basin	Stanford	1,894	.....	.....
Lewis and Clark	Helena	3,476	62,699,832	18,528
Liberty	Chester	1,458	11,871,060	2,416
Lincoln	Libby	3,660	21,263,555	7,797
Madison	Virginia City	3,588	23,824,022	7,485
McCone	Circle	2,740	16,756,515	4,747
Meagher	White Sulphur Springs	2,369	18,414,780	2,622
Mineral	Superior	1,224	11,893,514	2,327
Missoula	Missoula	3,022	56,211,819	24,041
Musselshell	Roundup	2,944	49,377,013	11,938
Park	Livingston	2,679	35,707,462	11,345
Phillips	Malta	5,266	22,432,469	9,311
Pondera	Conrad	2,369	24,563,000	5,741
Powder River	Broadus	3,181	9,892,657	3,357
Powell	Deer Lodge	2,549	23,828,662	6,909
Prairie	Terry	1,685	16,359,540	3,684
Ravalli	Hamilton	2,391	21,991,788	10,098
Richland	Sidney	1,900	23,993,882	8,989
Roosevelt	Mondak	2,355	20,060,127	10,347
Rosebud	Forsyth	5,070	35,475,463	8,002
Sanders	Thompson Falls	2,837	23,564,786	3,949
Sheridan	Plentywood	1,758	30,900,064	13,847
Silver Bow	Butte	698	128,411,371	60,313
Stillwater	Columbus	1,648	25,813,430	7,630
Sweet Grass	Big Timber	1,932	20,645,120	4,926
Teton	Choteau	1,650	27,060,331	5,870
Toole	Shelby	1,949	18,504,672	3,724
Treasure	Hysham	997	8,068,238	1,990
Valley	Glasgow	5,064	31,857,796	11,542
Wheatland	Harlowton	1,436	28,786,026	5,619
Wibaux	Wibaux	944	11,640,730	3,113
Yellowstone	Billings	2,708	84,595,256	29,600
	Total		$1,663,176,666	

Digitized by Google

Official Directory

United States Officials.

U. S. Senator ..... THOMAS J. WALSH, Helena

U. S. Senator ..... HENRY L. MYERS, Hamilton

Representative, First District ..... JOHN M. EVANS, Missoula

Representative, Second District ..... C. W. RIDDICK, Lewistown

Marshal ..... JOSEPH L. ASBRIDGE, Helena

District Judge ..... GEORGE M. BOURQUIN, Butte

District Court Clerk ..... C. R. GARLOW, Helena

Surveyor General ..... GILMAN BULLARD, Helena

Collector Internal Revenue ..... J. A. WALSH, Helena

Bureau Animal Industry ..... DR. RUDOLPH SNYDER, Helena

Reclamation Service ..... WILLIS J. EGGLESTON, Helena

Immigration Service ..... C. K. ANDREWS, Helena

U. S. Assay Office ..... HERBERT GOODALL, Helena

Federal Prohibition Director ..... L. K. DEVLIN, Helena

U. S. Geological Survey ..... WM. A. LAMB, Helena

U. S. Supervisor of Surveys ..... J. SCOTT HARRISON, Helena

U. S. Weather Bureau ..... WM. T. LATHROP, Helena

U. S. Forest Service—District Forester ..... FRED MORRELL, Missoula

U. S. Bureau of Crop Estimates—Agricultural Statistician ..... F. W. BIER, JR., Helena

Agricultural Experiment Station ..... F. W. LINFIELD, Superintendent, Bozeman

Branch Bank Federal Reserve Bank of Minneapolis ..... Helena

United States land offices, where applications for homestead, gas, oil and coal entries are made, are located in Montana at Billings, Bozeman, Glasgow, Great Falls, Havre, Helena, Kalispell, Lewistown, Miles City and Missoula.

Digitized by Google

NEWSPAPER DIRECTORY OF MONTANA

County and City	Name of Paper	Politics	Printed	Editor	Publisher
BEAVERHEAD					
Dillon	Examiner	Democratic	Wednesday	C. E. Adams	Examiner Print. Co.
Dillon	Tribune	Republican	Friday	F. E. Foote	Tribune Pub. Co.
Wisdom	News	Independent	Thursday	R. Hathaway	Richard Hathaway
BIG HORN					
Hardin	Tribune	Independent	Friday	Robt. A. Vickers	R. A. Vickers
Hardin	Herald	Republican	Thursday	Mrs. J. W. Johnston	Mrs. J. W. Johnston
BLAINE					
Chinook	Democrat	Democratic	Friday	Ed. T. Pierson	Ed T. Pierson
Chinook	Opinion	Republican	Thursday	H. B. Brooks	Opinion Pub. Co.
Harlem	News	Democratic	Friday	H. C. Anderson	H. C. Anderson
BROADWATER					
Townsend	Star	Independent	Thursday	T. N. Averill	T. N. Averill
CARBON					
Red Lodge	Picket-Journal	Democratic	Wednesday	Chas. H. Draper	Chas. H. Draper
Bridger	Times	Republican	Thursday	J. T. Spencer	J. T. Spencer
Fromberg	Herald	Independent	Thursday	C. C. Crossen	C. C. Crossen
Joliet	Independent	Independent	Tuesday	Mr. Pierce	Mr. Sherman
CARTER					
Ekalaka	Eagle Press	Independent	Friday	O. A. Dahl	O. A. Dahl
Piniele	Leader	Independent	Thursday	Frank Weed	Frank Weed
Alzada	Fairplay	Independent	Friday	S. B. Martin	S. B. Martin
CASCADE					
Great Falls	Tribune	Democratic	Daily & Wed.	W. M. Bole	The Tribune, Inc.
Great Falls	Leader	Republican	Daily & Weekly	E. H. Cooney	The Leader Co
Great Falls	Husbandman	Ind. Dem.	Thursday	R. N. Sutherlin	R. M. Husbandman Co.
Great Falls	Montana Farmer	Agricultural	Semi-Monthly	Chester C. Davis	The Tribune Co.
Great Falls	Montana Non-Partisan	Nonpartisan	Saturday		Nonpartisan Pub. Co.
Great Falls	Montana Banker	Financial	Monthly	A. B. Casteel	A. B. Casteel
Great Falls	Mont. Newsp. Ass'n.	Non-Political	Thursday	P. Raban, Wm. Cheeley	Mont. Newsp. Ass'n.
Great Falls	Mont. Trade Journal	Independent	Monthly	Mont. Trade Journal Co.	Mont. Trade Journal Co.
Belt	Belt Times	Republican	Thursday	J. B. Densmore	Belt Valley Times
Cascade	Courier	Democratic	Friday	Chas. W. Tierney	Wm. F. Berger
Geyser	Times	Independent	Friday	H. S. Thurston	H. S. Thurston
Simms	Enterprise	Ind. Dem.	Friday	C. S. Hanna	C. S. Hanna
Neihart	Morning News	Independent	Saturday	J. B. Dinsmore	J. B. Dinsmore
CHOTEAU					
Fort Benton	River Press	Republican	Wednesday	W. K. Harber	River Press Pub. Co.
Fort Benton	Independent	Democratic	Friday	A. S. Pettit	Benton Pub. Co.
Big Sandy	Mountaineer	Democratic	Thursday	H. S. Flint	H. S. Flint
Carter	Herald	Democratic	Wednesday	M. Rugroden	Herald Pub. Co.
Geraldine	Review	Democratic	Saturday	G. E. Shawler	G. E. Shawler
Square Butte	Tribune	Independent	Friday	Nellie T. Holt	Tribune Pub. Co.
Montague	Herald	Independent	Wednesday	Nellie T. Holt	Herald Pub. Co.

Digitized by Google

NEWSPAPER DIRECTORY OF MONTANA—Continued.

County and City	Name of Paper	Politics	Printed	Editor	Publisher
CUSTER					
Miles City	American	Democratic	Thursday	T. J. Johns	American Print. Co.
Miles City	Star	Republican	Daily	Jos. D. Scanlan	Ind. Printing Co.
Miles City	Evening Montanan	Independent	Daily	Jos. D. Scanlan	Ind. Printing Co.
Miles City	Independent	Republican	Friday	Jos. D. Scanlan	Ind. Printing Co.
Miles City	Boys Messenger	Independent	Monthly	The Boys	St. Ind. School
Ismay	Journal	Ind. Rep.	Friday	R. W. & V. K. Broman	R. W. & V. K. Broman
DANIELS					
Scobey	Sentinel-Post	Democratic	Friday	Roger D. Burke	Scott Burke Print. Co.
Scobey	Citizen	Independent	Friday		
Flaxville	Democrat	Democratic	Friday	M. Poulson	Purce Egan
DAWSON					
Glendive	Yellowstone Monitor	Democratic	Thursday	E. A. Martin	E. A. Martin
Glendive	Dawson Co. Review	Republican	Thursday	E. A. Martin	E. A. Martin
Richey	Pilot	Independent	Thursday	Forest Gaines	Forest Gaines
DEER LODGE					
Anaconda	Standard	Democratic	Daily	R. R. Kilroy	Standard Pub. Co.
FALLON					
Baker	Fallon Co. Times	Democratic	Thursday	Frank J. Mains	Mains & Pleissner
Baker	Sentinel	Republican	Friday	L. A. Conser	Tribune Pub. Co.
Plevna	Herald	Republican	Friday	F. C. Bunn	F. C. Bunn
FERGUS					
Lewistown	Democrat-News	Democratic	Daily	Tom Stout & E.G. Ivins	Democrat-News Co.
Lewistown	Judith Basin Farmer	Democratic	Thursday	Tom Stout & E.G. Ivins	Democrat-News, Inc.
Lewistown	Fergus Co. Argus	Republican	Friday	J. A. Gilluly	J. A. Gilluly
Coffee Creek	Herald	Democratic	Wednesday	Curtis Burns	Curtis Burns
Denton	Record	Democratic	Thursday	J. W. Altizer	J. W. Altizer
Grass Range	Review	Independent	Thursday	R. B. Vrooman	J. M. Vrooman
Hilger	Herald	Democratic	Saturday	A. R. Thompson	A. R. Thompson
Moore	Independent	Republican	Thursday	J. R. Overholser	J. R. Overholser
Roy	Enterprise	Democratic	Thursday	Ed. R. Johnson	Ed. R. Johnson
Valentine	News	Democratic	Thursday	G. F. Budweiser	C. F. Budweiser
Winifred	Times	Democratic	Friday	R. F. Cranston	R. F. Cranston
Winnett	Times	Democratic	Friday	E. M. Berg	Homer E. Geis
FLATHEAD					
Kalispell	Bee	Independent	Thursday	Carl S. Evans	Cooperative Pub. Co.
Kalispell	Times	Republican	Thursday	H. L. Knight	Knight & Cade
Kalispell	Interlake	Republican	Daily	L. D. Spafford	Interlake Pub. Co.
Columbia Falls	Columbian	Independent	Thursday	C. E. Clemens	C. E. Clemens
Polson	Courier	Republican	Thursday	C. P. Cowman	C. P. Cowman
Whitefish	Pilot	Democratic	Tues. & Fri.	F. R. Tallman	F. R. Tallman
Polson	Chief	Independent	Thursday	W. E. Gullord	W. E. Gullord
GALLATIN					
Bozeman	Chronicle	Democratic	Daily & Thurs.	Jas. P. Bole	Chronicle Pub. Co.
Bozeman	Courier	Republican	Wednesday	Harvey P. Griffin	Henry F. Sears
Bozeman	Exponent	College Paper	Friday	Students	Rep. Courier Co.
Belgrade	Journal	Independent	Thursday	M. S. Carpenter	Belgrade Journal Co.
Three Forks	News	Democratic	Thursday	W. C. Ballard	Three Forks Pub.
Three Forks	Herald	Independent	Thursday	P. S. Dorsey	P. S. Dorsey

Digitized by Google

NEWSPAPER DIRECTORY OF MONTANA—Continued.

County and City	Name of Paper	Politics	Printed	Editor	Publisher
GARFIELD					
Jordan	Times	Republican	Friday	Butte H. Tipton	Butte H. Tipton
Jordan	Gazette	Democratic	Thursday	Arthur M. Hengel	Arthur M. Hengel
Edwards	Garfield Co. Journal		Thursday	Fred M. Armstrong	Fred M. Armstrong
Sand Springs	Star	Democratic	Saturday	E. F. McRae	E. F. McRae
GLACIER					
Cut Bank	Pioneer Press	Republican	Friday	D. Whetstone	D. Whetstone
Browning	Review	Independent	Friday	Stuart Hazlett	Stuart Hazlett
GOLDEN VALLEY					
Lavina	Independent	Independent	Friday	Evan Lee	Evan Lee
Ryegate	Reporter	Independent	Thursday	Chas. H. Allan	Chas. H. Allan
GRANITE					
Philipsburg	Mail	Republican	Friday	Lawrence Hauck	Lawrence Hauck
Drummond	News	Independent	Thursday	S. J. Hollowood	S. J. Hollowood
HILL					
Havre	Hill Co. Democrat	Democratic	Saturday	F. F. Brown	F. F. Brown
Havre	Plaindealer	Democratic	Saturday	F. E. Martin	F. E. Martin
Havre	Promoter	Republican	Daily	R. J. Linebarger	
Box Elder	Valley Press	Independent	Friday	P. H. Hersey	P. H. Hersey
Fresno	Sentinel	Democratic	Saturday	M. H. Casey	M. H. Casey
Gildford	Tribune	Democratic	Friday	J. T. Casey	J. T. Casey
Inverness	News	Independent	Friday	Alex Olsson	Alex Olsson
Kremlin	Chancellor	Democratic	Friday	Matt H. Casey	Matt H. Casey
Simpson	Border Call	Democratic	Friday	C. E. Evans	J. T. Casey
Laredo	Tribune	Democratic	Thursday	J. L. Owens	J. L. Owens
Miller	Prairie-Advocate	Democratic	Thursday	Edw. Roberts	Edw. Roberts
JEFFERSON					
Boulder	Monitor	Independent	Saturday	A. H. Eiselein	A. H. Eiselein
Whitehall	Jefferson Val News	Independent	Thursday	F. C. Fessenden	F. C. Fessenden
JUDITH BASIN					
Hobson	Judith Basin Star	Independent	Thursday	J. C. Raitt	J. C. Raitt
Moccasin	Dispatch	Independent	Thursday	Chas. Burdick	Chas. A. Burdick
Windham	World	Democratic	Thursday	W. P. Dunton	W. P. Dunton
Stanford	Leader	Independent	Friday	C. H. Smith	C. H. Smith
LIBERTY					
Chester	Democrat	Democratic	Friday	D. P. Van Horne	D. P. Van Horne
Jplin	Times	Independent	Thursday	Alex Olsson	Alex Olsson

Digitized by Google

NEWSPAPER DIRECTORY OF MONTANA—Continued.

County and City	Name of Paper	Politics	Printed	Editor	Publisher
LEWIS and CLARK					
Helena	Independent	Democratic	Daily	Will A. Campbell	Independent Pub. Co.
Helena	Record-Herald	Republican	Daily & Thursday		Record Pub. Co.
Helena	Stockman & Farmer	Agricultural	Semi-Monthly	R. M. Shaw	N. W. Stock. & Farm. Inc
Helena	Messenger	Religious	Monthly	Charles L. Bovard	Independent Pub. Co.
Helena	Mont. Churchman	Religious	Monthly	L. W. Snell	L. W. Snell
Helena	Mont. Scandinav.	Independent	Friday	Wilhelm Peterson	Wilhelm Petterson
Helena	Farm Bulletin	Agricultural	Monthly	James W. Manning	Independent Pub. Co.
Augusta	News	Democratic	Friday	R. H. Copeland	R. H. Copeland
Gilman	Times-Optimist	Independent	Friday	Leo J. Simpson	Leo J. Simpson
Helena	Mont. Hgwy. Imp. Bulle	Road Improv.	Monthly	Chas. R. Brazier	Independent Pub. Co.
LINCOLN					
Libby	Western News	Independent	Friday	C. A. Griffin	W. Mont. Pub. Co.
Eureka	Journal	Independent	Thursday	Oscar F. Wolf	Oscar F. Wolf
Troy	Echo	Republican	Friday	B. N. Kennedy	B. N. Kennedy
MADISON					
Virginia City	The Madisonian	Independent	Friday	T. E. Castle	Madisonian Pub. Co.
Twin Bridges	Independent	Republican	Thursday	J. R. Jones	Twin Bridges Pub. Co.
Twin Bridges	Monitor	Independent	Friday	C. H. Browne	C. H. Browne
Sheridan	Forum	Independent	Friday	M. S. Bullerdick	M. S. Bullerdick
McCONE					
Circle	Banner	Democratic	Friday	Ben M. Larsen	Ben M. Larson
Brockway	Bulletin	Independent	Friday	Burt Fuller	Burt Fuller
MEAGHER					
W. Sulphur Springs	Republican	Republican	Friday	M. M. Mahurin	M. E. McKay
Ringling	Independent	Independent	Friday	V. T. Honey	V. T. Honley
MINERAL					
Superior	Independent	Ind.-Dem.	Thursday	Geo. S. Childers	Mineral Pub. Co.
MISSOULA					
Missoula	Missoulian	Independent	Daily	M. J. Hutchens	James A. Sage
Missoula	Sentinel	Independent	Daily	M. J. Hutchens	James A. Sage
Missoula	New Northwest	Independent	Friday	E. B. Craighead	E. B. Craighead
Missoula	Mont. Kaimin	Independent	Tues. & Thurs.	George Scheick	Students of Univ.
Missoula	Inter-Mount. Educator	Educational	Monthly	M. J. Elrod	M. J. Elrod
Roman	Pioneer	Independent	Friday	E. H. Rathbone	E. H. Rathbone
St. Ignatius	Post	Independent	Friday	A. W. Nelson	Post Pub. Co.
MUSSELSHELL					
Roundup	Tribune	Democratic	Thursday	C. V. Woodard	Roundup Tribune
Roundup	Record	Republican	Friday	A. W. Eiselein	A. W. Eiselein
Melstone	Messenger	Independent	Friday	Albert Berlin	Albert Berlin
Musselshell	Advocate	Independent	Friday	C. A. Holding	C. A. Holding
PARK					
Livingston	Enterprise	Democratic	Daily	R. S. Phillips	Livingston Pub. Co.
Livingston	Park Co. News	Republican	Friday	Geo. R. Desch	Hammond Printing Co.
Clyde Park	Herald	Democratic	Friday	J. A. Lohman	J. A. Lohman
Wilsall	Shields Valley Record	Republican	Thursday	Oscar H. Loe	Oscar H. Loe

Digitized by Google

NEWSPAPER DIRECTORY OF MONTANA—Continued.

County and City	Name of Paper	Politics	Printed	Editor	Publisher
PHILLIPS					
Malta	Call	Democratic	Wednesday	O. F. Rigg	P. R. Flint
Malta	Enterprise	Republican	Thursday	Henry A. Johnson	Henry A. Johnson
Dodson	Montana Idea	Independent	Friday	Buell Withrow	H. A. Johnson
Saco	Independent	Republican	Friday	W. D. Miller	W. D. Miller
Bowdoin	Beacon	Democratic	Saturday	S. J. Vas Binder	S. J. VasBinder
PONDERA					
Conrad	Independent	Democratic	Thursday	T. A. Busey	T. A. Bussey
Conrad	Observer	Republican	Thursday	J. R. Ferris	J. R. Ferris
Brady	Citizen	Democratic	Thursday	W. F. Aldrich	W. F. Aldrich
Valier	Valierian	Republican	Thursday	G. M. Moss	G. M. Moss
POWDER RIVER					
Broadus	P. R. Co. Examiner	Independent	Friday	Hugo Camplin	Broadus Pub. Co.
POWELL					
Deer Lodge	Silver State	Democratic	Thursday	Joseph Smith II	Joseph D. Smith
Deer Lodge	Post	Democratic	Friday	C. E. Aspling	C. E. & J. S. Aspling
PRAIRIE					
Terry	Tribune	Republican	Friday	E. H. McDowell	E. H. McDowell
Terry	Forum	Democratic	Thursday	R. C. Marks	R. C. Marks
Fallon	Herald	Independent	Friday	John Breum	John Breum
RAVALLI					
Hamilton	Ravalli Co. Record	Independent	Thursday	Bruce Wells	Bruce Wells
Hamilton	Western News	Democratic	Thursday	Miles Romney	Miles Romney
Hamilton	Ravalli Republican	Republican	Friday	J. C. Conkey	J. C. Conkey
Stevensville	Northwest Tribune	Independent	Friday	J. B. Townsend Jr.	N. W. Tribune Pub. Co.
RICHLAND					
Sidney	Herald	Independent	Friday	Harry G. Ketcham	H. G. Ketcham
Sidney	Richland Co. Chief	Republican	Friday	C. S. Clemmersen	C. S. Clemmensen
Lambert	Promoter	Non-Partisan	Thursday	Frank Korab	Frank Korab
Fairview	News	Republican	Thursday	Mrs. Cecyl Drake	Mrs. Cecyl Drake
Savage	Yel. Valley Star	Republican	Thursday	M. A. Frissell	M. A. Frissell
ROOSEVELT					
Mondak	Roosevelt Co. Review		Friday	W. L. Tidland	Jerome & Frawley
Bainville	Valley Tribune	Republican	Thursday	A. S. Hier	A. S. Hier
Brockton	Bulletin	Democratic	Thursday	Dale Curran	Dale Curran
Culbertson	Searchlight	Republican	Friday	F. S. Reed	F. S. Reed
Froid	Tribune	Independent	Friday	A. R. Butler	A. R. Butler
Poplar	Standard	Democratic	Thursday	C. W. Jerome	Standard Pub. Co.
Wolf Point	Herald	Democratic	Friday	C. L. Marshall	Wolf Point Herald, Inc.
Wolf Point	Promoter		Thursday	A. L. Skare	Mains and Skare

Digitized by Google

NEWSPAPER DIRECTORY OF MONTANA—Continued.

County and City	Name of Paper	Politics	Printed	Editor	Publisher
ROSEBUD					
Forsyth	Democrat	Democratic	Thursday	Jack McCausland	Jack McCausland
Forsyth	Democrat	Democratic	Daily Except Sunday	Jack McCausland	Jack McCausland
Forsyth	Times-Journal	Republican	Thursday	E. J. Heming	Times Journal Co.
Ingomar	Independent	Democratic	Thursday	Lem Watson	Lem Watson
Sumatra	Record	Democratic	Thursday	C. H. Polk	C. H. Polk
Rosebud	Record	Independent	Thursday	Georgia B. True	Georgia B. True
Ashland	Pioneer Press	Independent	Thursday	S. Stout	Ashland Pub. Co.
SANDERS					
Thompson Falls	Sanders Co. Ind.-Ledger	Independent	Thursday	C. C. Mills	Sanders Co. Ledger, Inc.
Dixon	Dixonian	Independent	Friday	Alexandder Watkins	Alexander Watkins
Plains	Plainsman	Independent	Friday	G. A. Williams	G. A. Williams
Camas	Sanders Co. Signal	Independent	Friday	Dorothy Ventling	Sanders Co. Signal Co.
SHERIDAN					
Plentywood	Pioneer Press	Republican	Friday	Jos. F. Dolin	Jos. F. Dolin
Plentywood	Herald	Republican	Friday	C. S. Nelson	C. S. Nelson
Plentywood	Producers' News	Non-Partisan	Friday	Chas. Taylor	Peoples' Pub. Co.
Antelope	Independent	Independent	Friday	V. Franley	Jos. Dolin
Bainville	Valley Tribune	Republican	Thursday	A. S. Hier	A. S. Hier
Froid	Tribune	Independent	Friday	A. R. Butler	A. R. Butler
Medicine Lake	Wave	Republican	Thursday	Jos. F. Dolin	Jos. F. Dolin
Redstone	Review	Republican	Friday	F. J. Sherry	F. J. Sherry
Westby	News	Pro. Rep.	Friday	R. V. Simmons	R. V. Simmons
SILVER BOW					
Butte	Miner	Democratic	Daily & Thurs.	J. L. Dobell	Butte Miner Co.
Butte	Independent	Democratic	Saturday	J. B. Mulcahy	J. R. Mulcahy
Butte	Daily Post	Ind. Rep.	Daily	J. H. Durston	Inter-Mount. Pub. Co.
Butte	Tribune Review	Republican	Saturday	Sam H. Roberts	Oates & Roberts
Butte	Montana American	Democratic	Friday	Byron E. Cooney	Byron E. Cooney
Butte	Free Lance	Union Labor	Wednesday	F. A. Bigelow	F. A. Bigelow
Butte	Daily Bulletin	Soc Labor	Daily	W. F. Dunn	W. B. Smith, Bus. Mgr.
STILLWATER					
Columbus	News-Democrat	Republican	Thursday	James T. Annin	James T. Annin
Park City	Pioneer	Ind. Dem.	Friday	Francis T. Ellis	Francis T. Ellis
Reed Point	Review	Independent	Friday	Chas. M. Smith	Chas. M. Smith
Rapelje	Advocate	Ind. Dem.	Thursday	P. M. McPherson	P. M. McPherson
Absarokee	Headlight	Republican	Thursday	W. T. Sherman	W. T. Sherman
SWEET GRASS					
Big Timber	Pioneer	Republican	Thursday	Jerome Williams	Jerome Williams
TETON					
Choteau	Montanan	Republican	Friday	C. E. Trescott	C. E. Trescott
Choteau	Acantha	Democratic	Thursday	E. L. Jourdonnais	E. L. Jourdonnais
Bynum	Herald	Independent	Thursday	R. E. Klipfel	R. E. Klipfel
Dutton	Sentinel	Independent	Friday	W. R. Lathrop	W. R. Lathrop
Fairfield	Times	Democratic	Wednesday	Fred Schoensigel	Fred Schoensigel
TOOLE					
Shelby	Promoter	Democratic	Friday	C. G. Bishop	C. G. Bishop
Galata	Journal	Republican	Thursday	Henry O. Woare	Henry O. Woare
Sweetgrass	Advocate	Independent	Friday	E. R. Holderby	E. R. Holderby

Digitized by Google

NEWSPAPER DIRECTORY OF MONTANA—Continued.

TREASURE					
Hysham	**Echo**	**Independent**	**Thursday**	**W. O. Ensign**	**W. O. Ensign**
VALLEY					
Glasgow	Democrat	Democratic	Friday	Dan B. McGovern	Dan B. McGovern
Glasgow	Courier	Republican	Friday	T. J. Hocking	T. J. Hocking
Glasgow	Mont. Co. Operator	Non-Partisan	Friday	W. E. Rhodes	Mont. Co-Oper. Pub. Co.
Barr	Courant	Democratic	Friday	Frank Tooke	Frank Tooke
Hinsdale	Tribune	Democratic	Friday	Frank Tooke	Frank Tooke
Nashua	Independent	Republican	Thursday	Roy T. Gordon	Gordon & Son
Oswego,	Valley Co. Reporter	Democratic	Thursday	N. A. Mann	N. A. Mann
Frazier	Promoter	Democratic	Thursday	J. W. Calfee	N. A. Mann
Thoeny	Review	Democratic	Friday	F. VanWagenen	McCarty& VanWagenen
Larslan	Ledger	Democratic	Friday	D. B. McGovern	D. B. McGovern
Opheim	Observer	Democratic	Friday	Geo. Tilton	Geo. Tilton
WHEATLAND					
Harlowton	**Press**	**Democratic**	Thursday	**Herbert M. Peet**	**Press Pub. Co.**
Harlowton	**Times**	**Republican**	Thursday	**H. Squires**	**H. Squires**
Judith Gap	**Journal**	**Independent**	Friday	**Lyle A. Cowan**	**Lyle A. Cowan**
WIBAUX					
Wibaux	Beaver Val. Gazette	Republican	Thursday	**Chas. E. White**	**Chas. E. White**
YELLOWSTONE					
Ballantine	Project Progress	Independent	Thursday	**E. E. Engberg**	Engberg & Green
Billings	Gazette	Republican	Daily	Leon Shaw	Gazette Prt. Co.
Billings	Times	Democratic	Thursday	M. C. Morris	M. C. Morris & Sons
Billings	Midland Empire Farmer	Agricultural	Monthly	W. W. Gail	Midland Empire Pub. Co.
Billings	Star	Democratic	Saturday	E. B. Craighead	Star Pub. Co.
Broadview	Independent	Independent	Thursday	N. P. Sherman	Leonard & Sherman
Huntley	Journal	Independent	Thursday	C. F. Elder	Journal Prt. Co.
Laurel	Outlook	Independent	Wednesday	Jas. Gehrett	Gehrett & Price
Pompeys Pillar	Rock	Independent	Friday	E. E. Engberg	Engberg & Green

Digitized by Google

INDEX

	Page
Area—State	5
Area—Counties	192
Assessed Valuation:	
State	192
Counties	192
Banks and Banking	81–82
Beekeeping	46
Butte, History of	9–62
Climate	86–88
Crop Comparisons with Other States	13–18
COUNTIES—DESCRIPTION OF	119–192
Beaverhead	119
Area, Valuation, Population	192
Big Horn	120
Area, Valuation, Population	192
Blaine	122
Area, Valuation, Population	192
Broadwater	123
Area, Valuation, Population	192
Carbon	124
Area, Valuation, Population	192
Carter	126
Area, Valuation, Population	192
Cascade	127
Area, Valuation, Population	192
Chouteau	130
Area, Valuation, Population	192
Custer	131
Area, Valuation, Population	192
Daniels	132
Area, Valuation, Population	192
Dawson	133
Area, Valuation, Population	192
Deer Lodge	135
Area, Valuation, Population	192

Digitized by Google

	Page
Fallon	137
Area, Valuation, Population	192
Fergus	138
Area, Valuation, Population	192
Flathead	140
Area, Valuation, Population	192
Gallatin	142
Area, Valuation, Population	192
Garfield	143
Area, Valuation, Population	192
Glacier	144
Area, Valuation, Population	192
Golden Valley	146
Granite	147
Area, Valuation, Population	192
Hill	148
Area, Valuation, Population	192
Jefferson	150
Area, Valuation, Population	192
Judith Basin	151
Lewis and Clark	152
Area, Valuation, Population	192
Liberty	154
Area, Valuation, Population	192
Lincoln	155
Area, Valuation, Population	192
Madison	156
Area, Valuation, Population	192
McCone	158
Area, Valuation, Population	192
Meagher	159
Area, Valuation, Population	192
Mineral	160
Area, Valuation, Population	192
Missoula	161
Area, Valuation, Population	192
Musselshell	163
Area, Valuation, Population	192
Park	165
Area, Valuation, Population	192
Phillips	166
Area, Valuation, Population	192

Digitized by Google

Page

Pondera 167
Area, Valuation, Population 192
Powder River 168
Area, Valuation, Population 192
Powell 170
Area, Valuation, Population 192
Prairie 171
Area, Valuation, Population 192
Ravalli 172
Richland 174
Area, Valuation, Population 192
Rosebud 175
Area, Valuation, Population 192
Roosevelt 177
Area, Valuation, Population 192
Sanders 178
Area, Valuation, Population 192
Sheridan 179
Area, Valuation, Population 192
Silver Bow 181
Area, Valuation, Population 192
Stillwater 183
Area, Valuation, Population 192
Sweet Grass 184
Area, Valuation, Population 192
Teton 185
Area, Valuation, Population 192
Toole 186
Area, Valuation, Population 192
Treasure 187
Area, Valuation, Population 192
Valley 188
Area, Valuation, Population 192
Wheatland 189
Area, Valuation, Population 192
Wibaux 190
Area, Valuation, Population 192
Yellowstone 191
Area, Valuation, Population 192
Dairying 40–43
Education 99–102

Digitized by Google

	Page
Farm Products	26
Wheat Statistics	27–28
Oats Statistics	28
Flax Statistics	28–29
Barley Statistics	29
Corn Statistics	29–30
Rye Statistics	30
Potato Statistics	31
Hay Statistics	32
Sugar Beets Statistics	33
Federal Directory	193
Forestry and Lumbering	65
National Forests	65
Homesteading in Forests	66
Forest Grazing Permits	67
Lumber Mills	68–69
Lumber Stand in State	68
Area National Forests	70–71
Farm Loan Associations	105
Farm Loans by State	105–106
Farm Bureau Organizations	107
Hail Insurance	108
Highways	89–90, 97–98
Horticulture	47–49
Hunting and Fishing	94–96
Game Laws	96
Game Preserves	95–96
Hydro-Electric Development	78–80
Irrigation	50
Land to Be Reclaimed	50–51
Government Projects	52–56
Carey Projects	56–58
Lands	19
Acreage Uncropped	19
Cut-Over Lands	21
State Lands	22
How to Secure State Lands	23
Leases on State Lands	23
Indian Reservation Lands	24
Public Lands	24
How to Get Located	25

Digitized by Google

	Page
Livestock	34
History of	34
Livestock Marketed	35
Beef Cattle Statistics	35–36
Beef Cattle Marketed	36
Horses on Farms	37
Sheep and Wool Statistics	37–38
Swine Statistics	39
Manufacturing	72
New Industries	72
Flour Mills	73
Sundry Manufactories	74–77
Merchandising	111–117
History of	111–113
Mercantile Census	116
Mercantile Failures	117
Merchants' Net Worth Census	117
Mines—Output, Value	59–64
Montana in General	5–9
Newspaper Directory	194–200
Oil and Gas	83–85
Opportunities in Montana	10–12
Poultry Raising	44–46
Production, 1919	4
Religion	103–104
Tourist Attractions	96–98
Trails and Highways	89–90
National Parks	90–93
Other Beauty Spots	93–94

Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google

THE NEW YORK PUBLIC LIBRARY
REFERENCE DEPARTMENT

This book is under no circumstances to be taken from the Building

form 410

Digitized by Google

Digitized by Google